

CIVIL DEFENSE

MANUAL

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CIVIL DEFENSE
14 SOMERSET ST.
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Edited exclusively for Residents of Boston and distributed thru the cooperation of public spirited citizens of this area.

Edited and compiled in cooperation with National, State and Local CIVIL DEFENSE AUTHORITIES

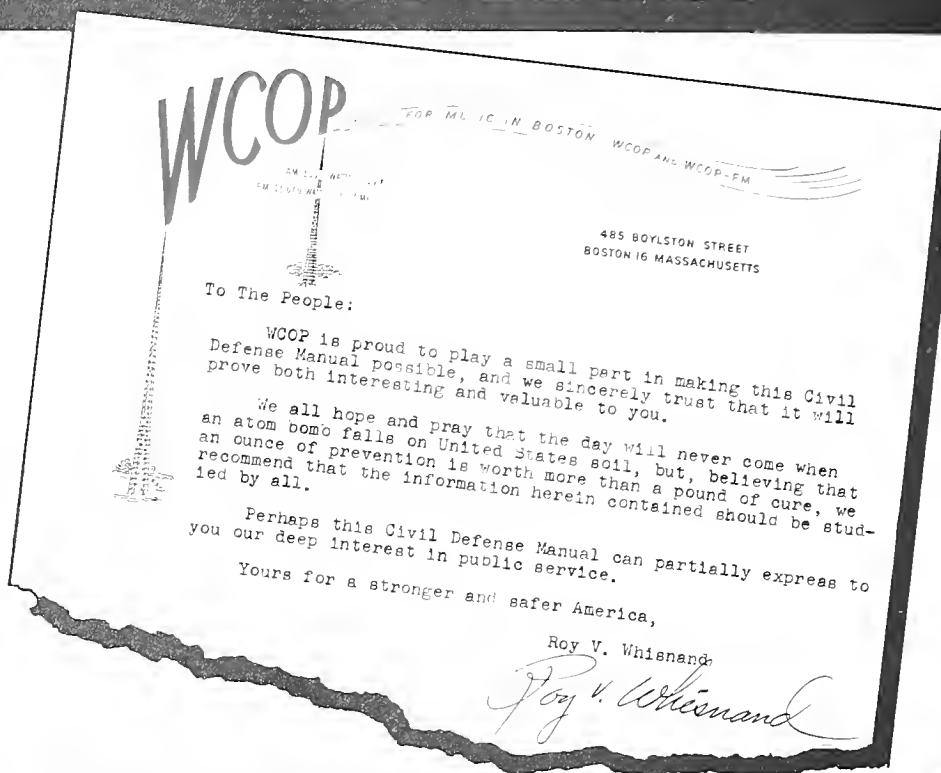
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W C O P

WCOP'S STAFF AND FACILITIES ARE DEDICATED TO THE PUBLIC DEFENSE



Roy V. Whisnand, WCOP General Manager. Mr. Whisnand's deep interest in this community and his broad experience in the broadcasting field guide WCOP in its policy of service through entertainment.



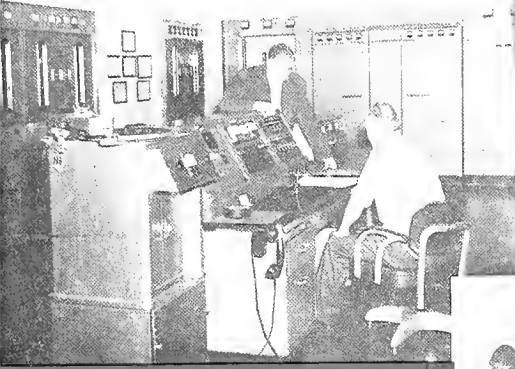
WCOP's imposing 4-tower antenna array carries our AM and FM signals into your home.



Roland C. Hole, WCOP Chief Engineer responsible for keeping the station "on the air."



Irvin E. Dierdorff, Jr., WCOP Program Director... formulates programs that daily entertain, inform and serve the listening public. "Dial 1150" has grown to mean music, news, sports and public service features to please WCOP's ever growing circle of friends.



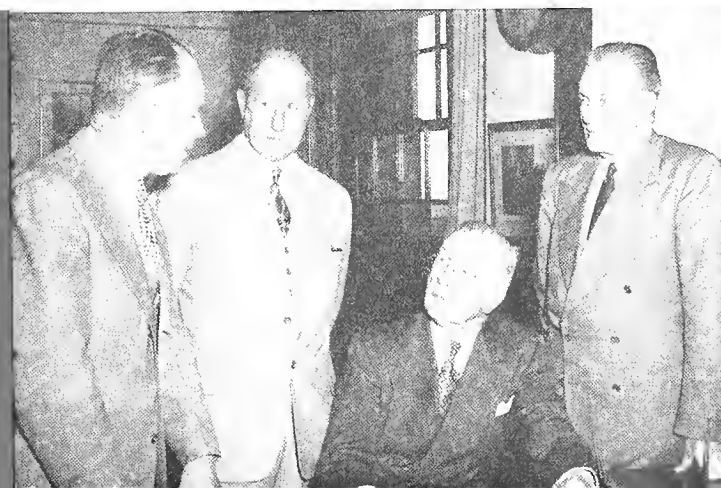
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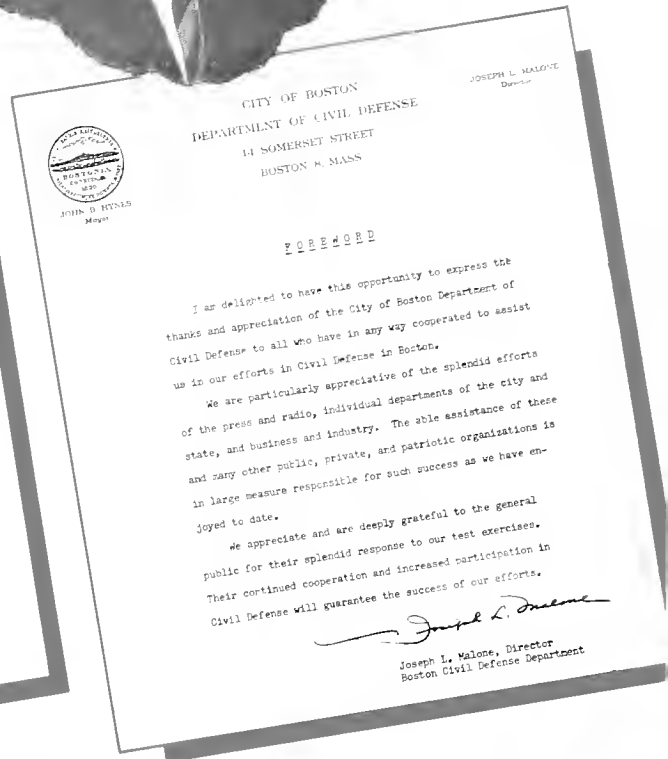
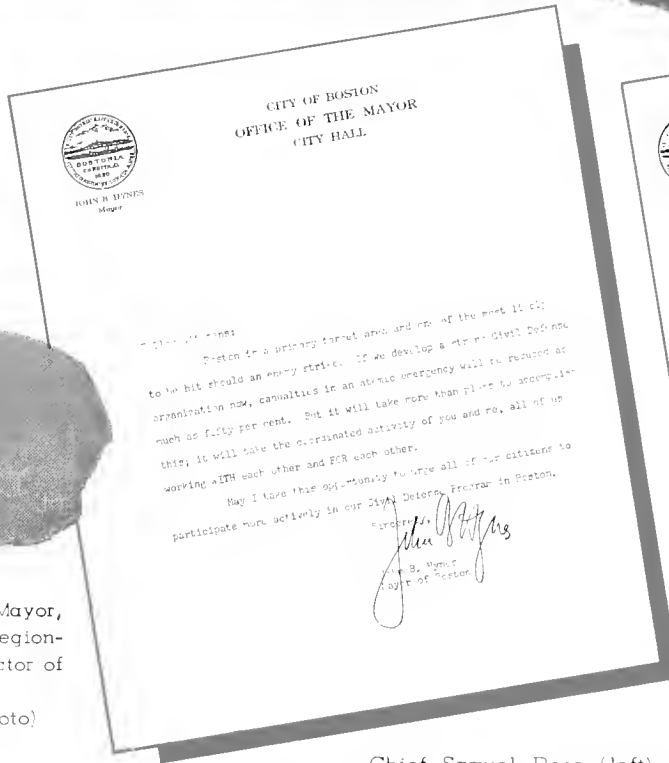
BOSTON DEPARTMENT OF CIVIL DEFENSE



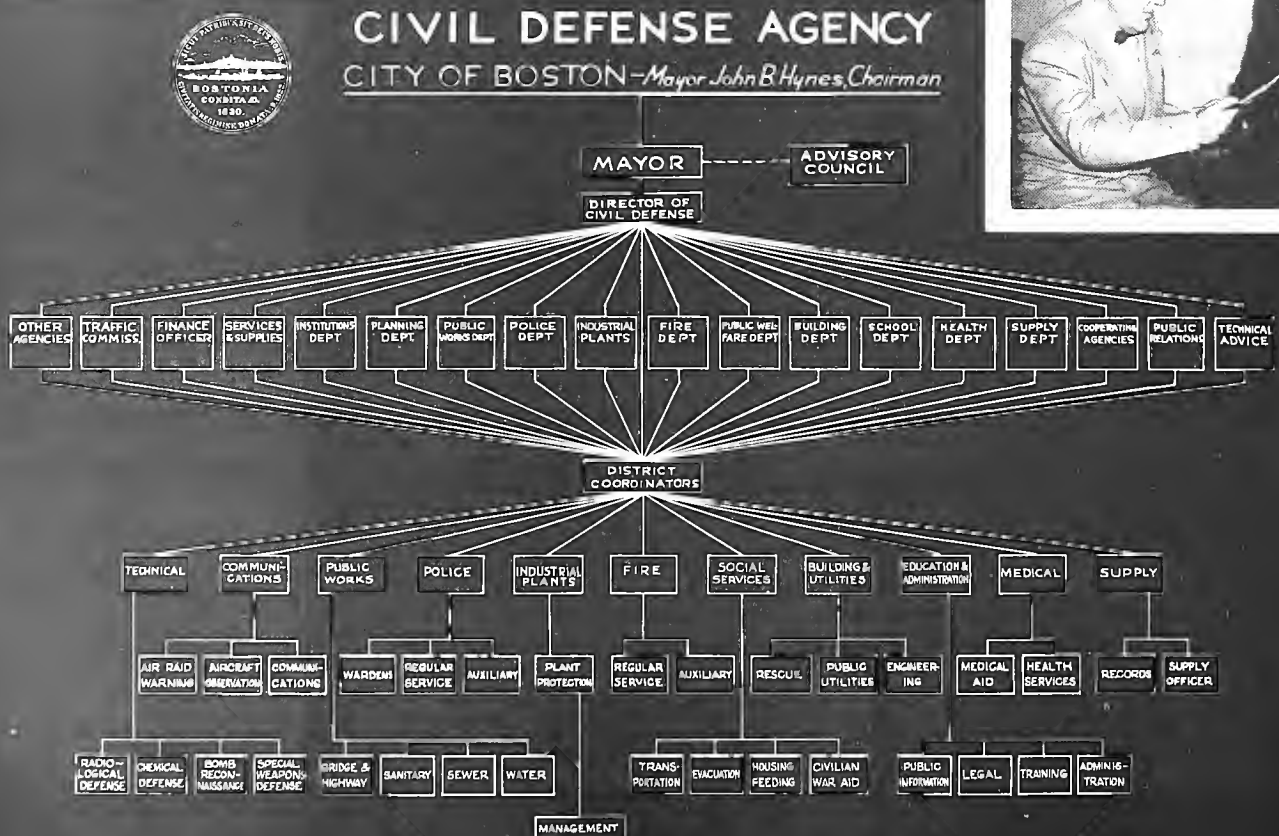
Joseph L. Malone, Director,
Boston Civil Defense Dept.

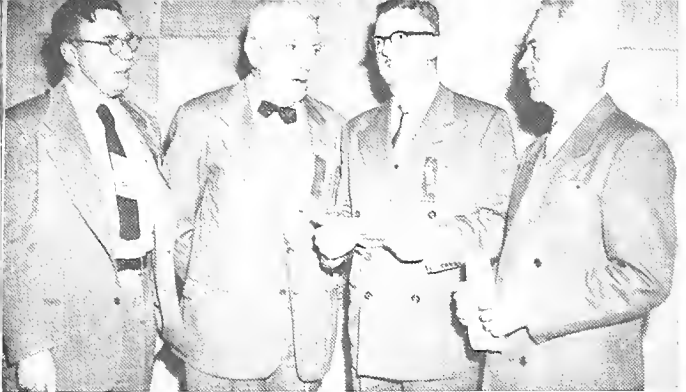


Hon. John B. Hynes, Mayor,
City of Boston, and Regional Civil Defense Director of Region V.
(Fabrian Bachrach Photo)



Chief Samuel Pope (left), Chairman of the Mayor's Advisory Council, Boston Dept. of Civil Defense, confers with Jos. L. Malone, Boston Civil Defense Director.





Discussing area civil defense problems are (l. to r.): Neil Fallon, Welfare Officer of FCDA Region 1; W. Anthony Comerford, Administrative Assistant, State Region 5; Jos. L. Malone, Director Boston Dept. of Civil Defense, and A.L. O'Connor, Regional Director of FCDA Region 1.



Francis C. Cleary, Deputy Director of Transportation, Boston Department of Civil Defense.



Gen. Cortlandt Parker, Director of Transportation, Boston Dept. of Civil Defense, goes over a transportation map revision with Francis C. Cleary, Deputy Director.



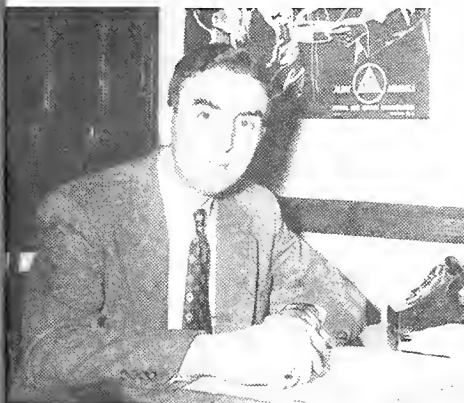
Paul J. Caron, Director of Public Relations, Boston Dept. of Civil Defense, checks a group of photographs for the Boston Civil Defense Manual.



John Malone, Assistant to Director of Boston Dept. of Civil Defense, in charge of Wardens Division.



F.A. Fitzgerald, Ass't. to Boston Health Com. J.H. Cauley, Chief Medical Officer for Boston Civil Defense Health and Medical Division.



Joseph Runci, Executive Secretary, Social Services Division, Boston Department of Civil Defense.



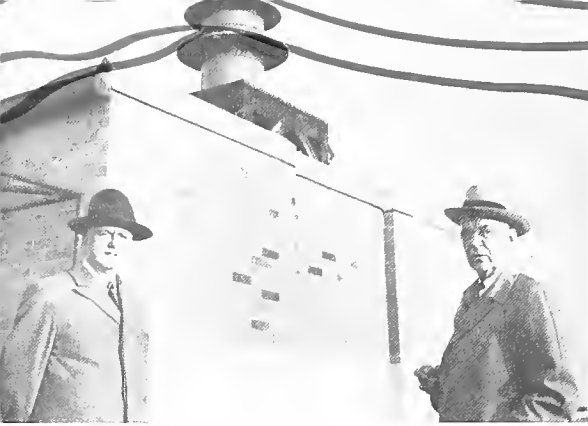
Clarence Elam, Assistant Director of the Boston Department of Civil Defense.



Secretaries to the executives of the Boston Department of Civil Defense go over their notes.



ATTACK IMMINENT



(Left) Boston Fire Commissioner M.T. Kelleher (left), and B.B. Whelan, Supt. of Electrical Inspection for the Fire Dept., visit one of the city's 119 air raid siren installations.

(Right) Harry J. Keefe, Building Commissioner for the City of Boston, and chief of the civil defense shelter program.



BOSTON'S AIR RAID WARNING SYSTEM

119 air raid sirens were installed in Boston under the able direction of Bernard Whelan, Supt. of Electrical Wiring for the Boston Fire Department when it was discovered that reconditioned World War II equipment was insufficient to provide complete coverage of the 49 square miles of Corporate Boston. In addition, 63 industrial horns, whistles, and amplification systems are prepared to assist in disseminating the air raid warning signal in an atomic emergency. All of these sirens can be operated individually from their several locations or collectively from a central control in each Civil Defense District.

Central Control is equipped to receive the air raid warning by at least three means of communication.

A one-minute blast on Friday at noon is used to check the audibility and operation of each siren.

AIR RAID SHELTER PROGRAM

1. Boston Building Dept. engineers and construction inspectors made a survey of all reinforced steel frame buildings over 5 stories high, approved 301 of these as offering reasonable shelter, and secured the cooperation of the building owners in the use of these buildings as public shelters.

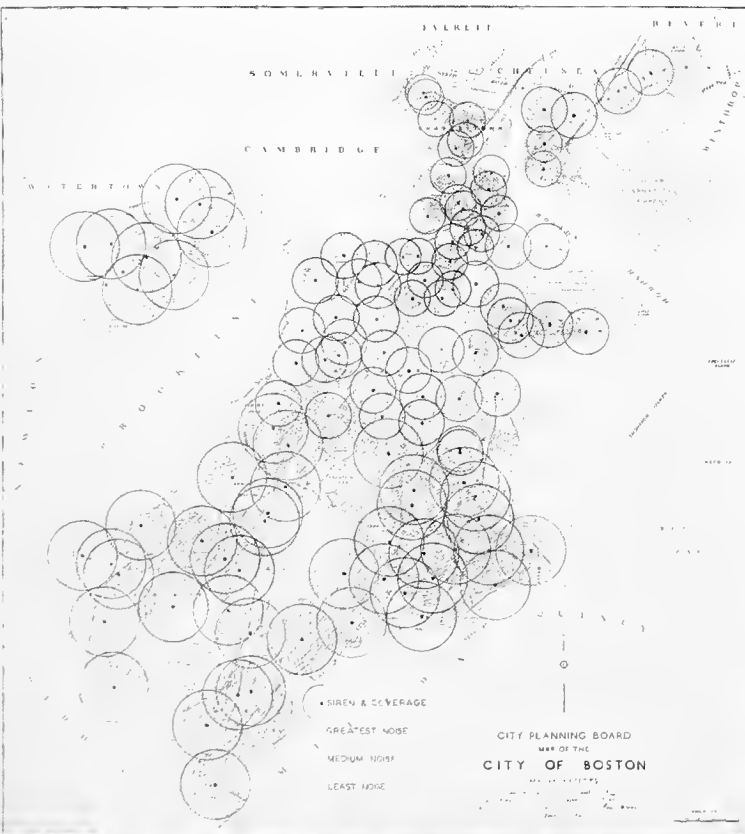
2. The Traffic Dept. assumed responsibility for posting all of the approved buildings and maintaining all shelter signs.

3. Construction inspectors who were formerly architects or engineers made a survey of 29 subway stations and selected 27 for shelter. A list of suggestions were issued to the M.T.A. There are about 6 miles of subway, about half of which have no third rail and might possibly be used as a means of egress in the event of a fire storm.

4. The Building Department has issued printed instructions on how to locate the proper areas for shelter and methods of reaching them in safety.

5. The procedure in making the survey was as follows:
- Printed cards with a complete questionnaire of all vital facts about the specified building.
 - A plan of the city was made, plotting all the selected buildings from the information on the Bromley Atlas.
 - The cards were distributed to the Construction Inspectors and returned to the office with a complete history of all buildings with the inspectors recommendations.
 - In case of doubt concerning the construction of a building, the original plans were studied by an architect and engineer in the Building Dept. for final decision in regards to its useability.
 - In some cases where there was no available information mine detectors were used to find out if the building was steel-framed.

(Below right) Downtown buildings with specified shelter areas bear exterior signs such as this on the building housing the Boston Dept. of Civil Defense, as well as interior shelter signs such as the one indicated below in the John Hancock Building. One of that Company's periodic air raid drills was in progress when this photo was taken. (John Hancock Photo)



As a result of careful study and analysis, sirens were located at the above locations in the City of Boston. Size does not indicate the size of the siren, but rather emphasizes the limited range of a siren in the downtown area due to the height of buildings and the high level of traffic noise.



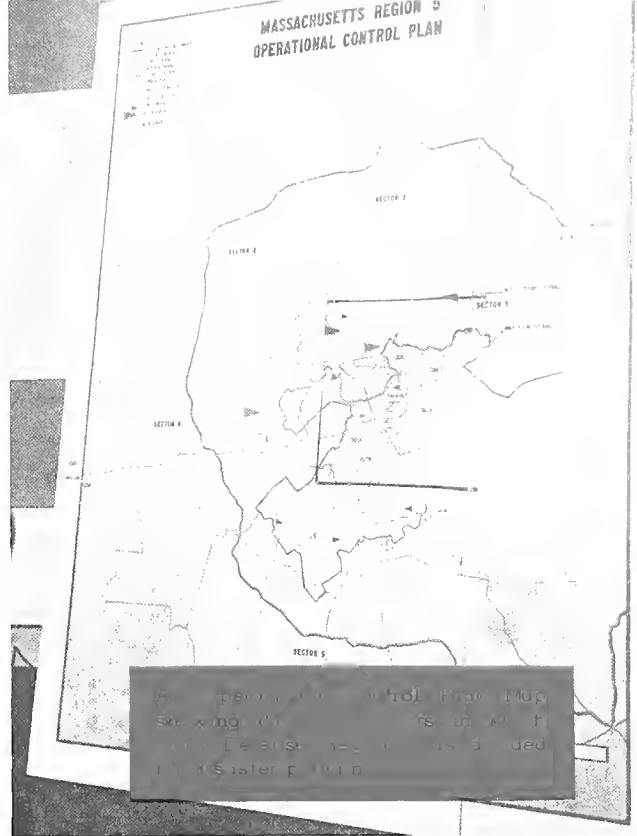
TRANSPORTATION

The explosion of an atomic bomb during working hours is expected to find Boston's commercial vehicles at distances from the Hub, varying from 200 miles to zero. The explosion is expected to neutralize, if not destroy, the offices of a large number of commercial transportation companies. Consequently our plans call for having companies attach to each Civil Defense vehicle a card showing the predesignated assembly area for that vehicle. The explosion of an atomic bomb is the signal for each vehicle enrolled in Civil Defense to move at once to its preassigned assembly area as indicated on the card.

As each vehicle approaches its assigned assembly area, it will be guided by traffic police to a specific Subarea in the Assembly Area. The two principal Subareas are the Straight-Job-Trailer Subarea and the Ambulance-Type Subarea. The Subarea staffs receive vehicles and supervise them until dispatched.

Near each assembly area is a Zone Control Center. The staff of each Zone Control Center, especially Medical, will call for the sending of vehicles, including many ambulances, towards the burning area. The Dispatcher of the assembly area, assisted by a Starter from each Subarea, will effect this dispatching. The driver of the dispatched vehicle, on arrival at destination (as an Aid Station) will receive written directions.

The Transportation Division will have a staff at each Zone Control Center, which will include an Operations Section and a Supply and Administration Section. The latter section deals with problems of servicing, maintenance, and repair of vehicles and with relief of drivers, their rest, and feeding. Each assembly area has a staff with similar duties. Commercial transportation companies provide relief drivers.



Leaders of the Transportation Div., Boston Civil Defense (l. to r.): Seth E. Dunklee, Automotive Supt., Esso Standard Oil Co.; M.W. Illingworth, Gen'l Mgr., Mass. Motor Truck Assoc., Inc.; Cortlandt Parker, Member of Mayor Hynes' Advisory Council and chief of Transportation Div., Boston Civil Defense.

Civil Defense volunteers man a Warden Observation Post during Boston's public air raid test. (Christian Science Monitor Photo)



PUBLIC RELATIONS IN BOSTON ON CIVIL DEFENSE

The public relations program for the Boston area has been developed by the Civil Defense Administration through the Civil Defense League and through the news papers, radio, television, public display, and leaflets. State and city posters, signs, and posters, public displays, and parades are the main devices that have been used to tell the Civil Defense story.

In addition to the excellent cooperation that has been extended by the press, radio, and television, the Civil Defense program has received valuable assistance from business and

labor organizations. The Civil Defense Administration has worked closely with the press, radio, television, and public display agencies to secure the best possible results. The Civil Defense Administration has also secured the cooperation of the newspaper, radio, and television spot announcements, and public display agencies.

The publicity obtained in connection with this event is a tribute to the consistent and effective cooperation that has been given to Civil Defense by Boston's press industries.

DISTRICT COORDINATORS ORGANIZATION

The City of Boston has been divided into 14 Defense Districts, the borders of which were determined by police districts and concentration of population. A representative of the Department of Civil Defense, termed a District Coordinator, has been appointed in each District and he, in turn, after subdividing the district into precincts has appointed his Precinct Leaders, who are responsible for the continuing enrollment and training of wardens in their duties and instructions in First Aid and

in use of the highway in addition, the District Coordinator has a personnel assigned to his staff from various city departments, such as the Police, Public Works, and Welfare, to assist him in technical matters. In order that each District may become self-sufficient, a replica of the City Wide Organization and self-sustaining for its existence should be developed. A division of Civil Defense that is entitled to the special title of "Organization" is reserved for District Coordinators.

BOSTON INDUSTRY ORGANIZES FOR CIVIL DEFENSE



First message goes on the air from Boston Civil Defense Headquarters over Boston Edison Company portable transmitter following hypothetical bomb explosion. (Fay Foto Ser.)



Two employees of the Gillette Co. at their posts in the co.'s civil defense control center. (Gillette Co. Photo)



Here trainees in a vital Boston industry are taught the flame cleaning method for ridding an area of contaminating material. (Official U.S. Navy Photo)



Employees of the First National Bank hurry to a shelter area in an air raid drill put on by the Bank. (1st Nat'l Bank Photo)



Lt. Nelson of the 545th Explosive Ordnance Bomb Disposal Unit, Fort Devens, shows the Boston target area to (l.), J.L. Malone, Dir. of Boston Department of CD and to W.A. Comerford, Ass't. for CD Region 5. (Boston Record Am. Photo)

BUSINESS AND INDUSTRY

Business and industrial organizations in this area have made considerable progress in developing programs designed to provide maximum safety for their personnel and to arrange for a speedy resumption of normal activity after any disaster. All plans have made provision for whole-hearted cooperation with Civil Defense officials. Under the leadership of such groups as the Retail Trade Board, Chamber of Commerce, Civil Defense Committee, Retail Druggists Association, Real Estate Board, Hotel Association, and other groups, business firms have kept up to date on Civil Defense information and maintained liaison with the Boston Civil Defense Department. Some of their activities are briefly outlined below.

BANKS — Large banks have adopted a standard procedure for the protection of personnel, patrons, and records. The execution of this plan has been perfected by frequent drills and modifications have been made to adapt it to branches and smaller banks.

HOTELS — Hotels have selected shelter areas and posted air raid instructions in each room. Personnel have been trained in their duties.

RETAIL STORES — Larger stores have complete and detailed plans for operational procedure directed from control rooms similar to those in large banks and insurance companies. All employees have been drilled in their emergency duties through regular practice exercises. Smaller stores have been enrolled and organized by the Retail Trade Board.

INSURANCE COMPANIES — Detailed plans have been worked out through several practice tests.

INDUSTRIAL PLANTS — Most have adapted and amplified their fire control systems to cope with disaster conditions.

GROCERY CHAIN STORES — Shelter areas have been surveyed and personnel of stores have been instructed in emergency duties.

CD TRAINING

The training of individuals for participation in Civil Defense has been carried on in each of the 12 Civil Defense Districts by means of schools in every district and the widespread dissemination of instructional material. In addition, visual aids which include television, motion pictures, film strips, and posters have been used extensively in the instructional program. As a result, wardens in several districts have become informed on the dangers that result from blast, heat, and radiation from an atomic bomb and they and their neighbors are prepared to minimize loss of life and property by taking appropriate action in an atomic emergency.

Schools for auxiliary police have been conducted in every district and auxiliary police in every division meet regularly. As part of their training program, they learn the laws of arrest, traffic control, and are instructed in other police duties. Approximately four thousand police have been trained to date.

Over 1100 doctors have been enrolled in the Health and Medical Program. All key personnel in the Health and Medical Program have become thoroughly familiar with the "Effects of Atomic Weapons"

Dr. Wm. A. Shurcliff, Supervisor of Dosimeter Research and Development at Polaroid Co. is shown conducting a radiological demonstration during one of the radiological training courses conducted at Boston CD Headquarters.



Representatives from Boston's Public Utilities in action at the Boston Civil Defense Control Center.



Bostonians in a shelter area of Wm. Filene's Dept. Store, during Boston's first CD air raid drill.



As part of John Hancock's extensive defense program employees are taught the technique of fire fighting. (John Hancock Photo)

N CIVIL DEFENSE

DRUG STORES — All drug stores are enrolled in Civil Defense as local first aid stations.

GAS STATIONS — Their Civil Defense role is to assist in fighting small fires and to serve as decontamination stations. Gas station attendants have been enrolled through the cooperation of the major oil companies.

OFFICE BUILDINGS — Nearly all large office buildings have posted air raid instructions and appointed floor and stair wardens.

PUBLIC UTILITIES — These companies have representatives at all meetings of vital services and have actively participated in all test exercises. They have made a generous contribution in distribution of Civil Defense literature.

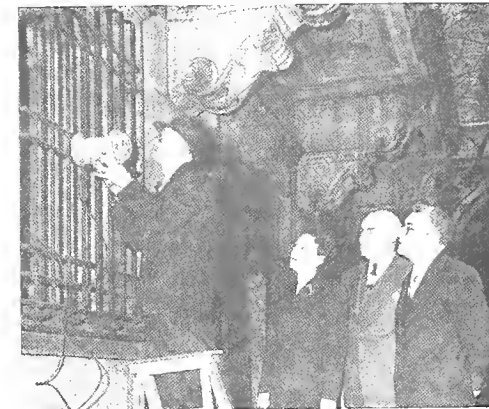
TRANSPORTATION COMPANIES — Selected transportation company vehicles now carry cards designating their assigned emergency assembly areas. Total requirements call for 5603 vehicles.

The petroleum industry has designated the oil companies with selected leaders, workers, and vehicles to provide motor fuels to Civil Defense vehicles.

PUBLIC LIBRARY — The Boston Public Library has developed an active and extensive civil defense program. Shelter areas have been designated in the Central Library Bldg. and a well equipped First Aid Station has been set up for immediate functioning. In this connection 65 employees have already completed the Standard First Aid Course. A 36-page mimeographed Civil Defense Manual has been compiled and distributed to every member of the Central Library staff. The Library has featured CD exhibition cases in its main lobby and also had a display at the Armory during Alert America Week. Civil Defense registration cards for members of the public have been made available at Central Library. The Public Library Civil Defense Coordinator attends all regular meetings of the Boston Civil Defense Department.



In a Civil Defense communications test employees of Boston Gas await a message at the company's mobile radio car. (Fay Foto Service)



Executives of the Boston Public Library watch the installation of one of the library's elaborate systems of air raid sirens. (Christian Science Publishing Society)

ING PROGRAM

as a result of schools and lectures which were conducted at the Boston City Hospital, Harvard Medical School, and Massachusetts General Hospital, Specialized training in Phlebotomy has been given the undergraduates in nearby colleges, at the Faulkner Hospital, St. Elizabeth's Hospital, Carney Hospital, and other hospitals.

A transportation school was conducted during the summer months for key personnel in the New England area at Northeastern University and the Boston City Hospital.

Representatives from Fire, Public Works and Red Cross have attended schools conducted in Olney, Maryland, and Ogontz, Pennsylvania.

First aid instructors have been trained in every city department as a result of an Administrative Order issued by Mayor John B. Hynes. Business and industry have cooperated by training their personnel in first aid. As a result, approximately 15,000 first aiders have been trained by Red Cross to date in Boston and Red Cross First Aid Training has become a part of the school program in grades seven through twelve.



The latest medium for CD mass education made its debut in Boston when the "closed circuit" television School of Survival was conducted for Social Service personnel.



Fire communications room at the Control Center of the Boston Department of Civil Defense during a test exercise.



Boston Firemen in action! Auxiliary Firemen will be urgently needed to assist the regulars if disaster strikes.



Police communications comprise one of the most vital facilities at the Control Center of the Boston Dept. of CD.

FIRE AND POLICE SERVICES IN BOSTON CIVIL DEFENSE

FIRE

The Boston Fire Department's Fire Alarm System dovetails with the Civil Defense Communications program. The 1,859 fire alarm boxes (on as many street corners) provide telegraph and telephone connection direct to the fire alarm office and thence to the Civil Defense office. As the apparatus of the fire department is dispersed on receipt of a YELLOW air-raid signal, immediate contact will be had through these fire alarm boxes.

The Boston Civil Defense Agency, in its appropriation of two-way radio sets for use on the apparatus, has contributed greatly to the promotion of this project which started several years ago. Two-thirds of the fire apparatus in the City is now equipped with this modern means of communication.

The Fire Department has set up in the Boston Civil Defense Agency Field Headquarters a complete receiving and transmitting assemblage so that immediate contact can be made by the Civil Defense Agency with all equipment of the Fire Department.

POLICE

BOSTON POLICE DEPARTMENT CIVIL DEFENSE ORGANIZATION

In accordance with authority granted by the legislature in 1950 dealing with emergency civil defense, Boston Police Commissioner Thomas F. Sullivan issued his order of September 18, 1950, commanding the establishment of an Unpaid Auxiliary Police and directed that he set up a plan for the enrollment, training and permanent recording of the emergency organization. Thirty-five hundred men have as a result been processed for enrollment in the group.

The training of these men was accomplished by selecting a sergeant and a patrolman from each of the Police Divisions as heads of the Auxiliary Police in their respective division and requiring them to attend a two-weeks course at the Boston Police Academy consisting of lectures, demonstrations and practice in Police Procedure, Criminal Law, Law of Arrest, Red Cross First Aid techniques, handling of traffic and public relations.

The Auxiliary Police of the Boston Police Department in company with the regular members of the Department have been called out on several city-wide test air-raid alerts where an opportunity was given them to put into practice some of the teaching they have absorbed in their preparatory classes. Other emergencies requiring police action have seen a number of the Auxiliary respond on their own initiative and assist in protecting the interests of the public.

With assistance given by the Boston Civil Defense Agency most of the radio-cruising cars of the Boston Police Department have been equipped with loud speaker horns. These are to be used in any emergency to help direct the public and thus allay panic. The police department has also made considerable progress in its plan to equip the various Police Stations with emergency radio, electric and telephonic equipment to be used in the event of a disaster. Sirens have been installed on all Police Station houses and other buildings near them as warning signals.



Civil Defense Auxiliary Police work with the regular Police in directing civilians to shelter areas during a Boston Air Raid Drill. (Boston Traveller Photo)



Police communications comprise one of the most vital facilities at the Control Center of the Boston Dept. of CD.



Just as the Boston School system is shown to be, they are sworn in as Auxiliary Firemen.



Police Capt. Andrew Markward, Lt. John Stevens, and Capt. Arthur J. Peterson, of the Boston Police Dept. study a map showing the disposition of all mobile radios cars of the Police Dept. in the Turret Room of the Bureau of Operations.

Boston's "finest" route traffic quickly and efficiently as the first wails of air raid sirens warn the citizens of a simulated impending enemy attack. Photo courtesy Elenet's



CIVIL DEFENSE

AND YOUR PERSONAL PROTECTION



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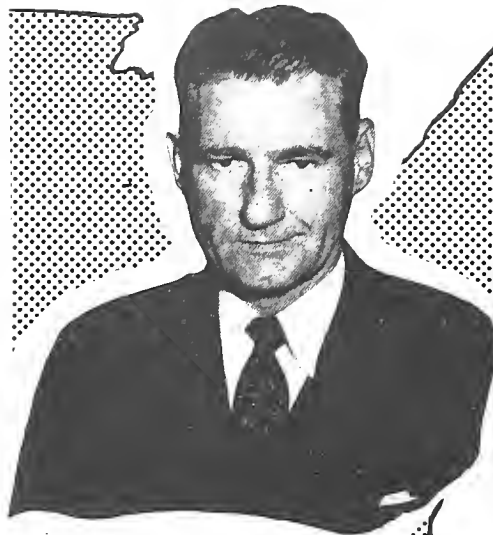
Speaking to the American Society of Newspaper Editors recently, Federal Civil Defense Administrator Caldwell cited 4 reasons why these are the gravest days in our history.

1. The Russians have atomic bombs and planes in sufficient numbers and excellent to assault ALL of our major cities in one attack.

2. There is little or nothing we can do to stop them. The best to be expected is that some 10 percent of the attacking force may be downed or deflected.

3. That attack can come with little or no warning. The best we can hope for is a few minutes notice.

4. The Russians are capable and ready to deliver this destruction whenever they feel like it -- whenever it is most profitable to do so.



Millard F. Caldwell, former Governor of Florida, Administrator of Federal Civil Defense.

A POTENTIAL MILITARY WEAPON

We are currently engaged in a conflict in which use of the atomic bomb is quite probable. It is highly important that you understand the effects of this weapon and how you can best protect yourself. We shall present in the following pages a simple digest of such facts from governmental and other authentic sources we feel to be of greatest value.

The atomic bomb is an extremely potent military weapon but not "absolute" in the sense that its possession alone guarantees victory. Thus far the United States has exploded several atom bombs and we have learned of the devastation that can be caused. In Hiroshima, 71,000 people were killed and 68,000 injured in a city of 245,000. About 75 A-bombs, according to Dr. R. E. Lapp, would probably have done as much damage to target areas in Germany as was done by all the strategic bombing during World War II. With all its tremendous heat and blast effects, accompanied by its unique radiation effects, it is still not unlimited in the amount of damage it can do. You need not worry, for example, about rumors to the effect that atomic explosions might contaminate the earth. It would take something like a million A-bombs to do the trick.

The atomic bomb is certainly to be feared and respected but there is no reason that it should cause panic. Now that the damage that it can cause, and the probable extent of such damage, is known, it has been possible to formulate certain simple rules that will go a long way towards insuring your safety and eliminate to a great degree the element of fear.

In any discussion of the atomic weapon it should be

remembered that constant improvements in design and type, or usage, can be expected. A top military spokesman recently forecast the use of A-bombs as the next probable step in battlefield warfare and said that they can be used with deadly accuracy against troops, tanks and other military targets.

RADIOLOGICAL WARFARE — The use of radioactive gases, dusts or mists as a weapon, is a possibility and we should be prepared for it according to Prof. Ridenour of the University of Illinois. The primary purpose of such warfare would be disruption of community and industrial life.

H-BOMB (Hydrogen Bomb) . . . It is no secret that research and experimentation on the development of the H-bomb is going on. It is not possible to predict when, or if, such a weapon will be produced. According to N. Y. State Civil Defense Commission, a Hydrogen bomb of 1000 X nominal bomb power would have a radius of total devastation of 10 miles. The Hiroshima bomb severely devastated 4.5 sq. miles, moderate to heavy damage within 9 sq. mi. area. 1000 X hydrogen bomb would totally devastate an area of 314 sq. miles.

ATOMIC GUIDED MISSILES — President Truman recently announced that we have developed fantastic new weapons.

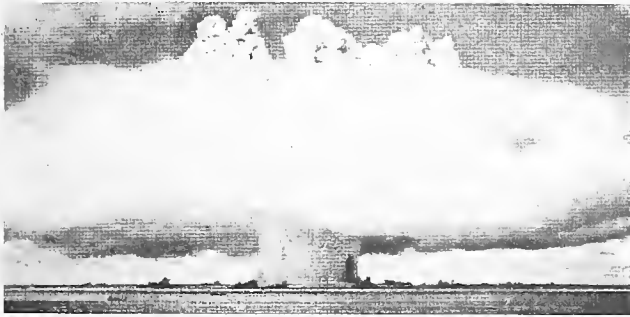
In testimony before the senate appropriations committee Gordon Dean, Chairman of the Atomic Energy Commission, disclosed the U. S. will have atomic guided missiles "and things of that type" in 1952. In a speech in Los Angeles Dean said, "We have today a tactical (atomic bomb) capability which is very impressive. . . . It can be used against men in the field and against military targets."

ATOM BOMB!

THE ATOMIC BOMB differs from other bombs in several important ways: (1) **ENERGY** released by an atomic bomb is roughly equivalent to that produced by the explosion of 20,000 tons of TNT bombs; (2) the explosion of the bomb produces highly penetrating, invisible **RADIATION** in the form of lethal gamma rays. In addition there

is also; (3) intense **HEAT** (1,000,000° C. in center of fireball) and **LIGHT** (at 5.7 miles, the brilliance is 100 times that of the sun viewed at the earth's surface); and (4) **RADIOACTIVE RESIDUES** which remain after the explosion emitting harmful radiations.

TYPES OF EXPLOSIONS



UNDERWATER BLAST—In test "Baker" off Bikini, a tremendous column of water was produced, which completely absorbed the initial flash of neutrons and gamma rays. When it began to fall back to the lagoon surface a critical base surge — a 200 to 300 foot wave of radioactive fission products — rolled over the ships in the harbor drenching them with highly contaminated radioactive products. Fall-out droplets were a further serious radioactive hazard many miles "downwind." In order to produce a critical base surge the water must be fairly deep. Fortunately little water of such depth exists in harbors or water adjacent to any of our larger cities. However the blast effect of an underwater explosion in even shallow water would cause considerable damage to any nearby docks or shore installations.

SURFACE AND SUBSURFACE BURSTS — Calculations indicate that destructive earth-shock effects would probably occur to a radial distance of 1,350 to 3,300 feet from the point of underground explosion of an atomic bomb, with appreciable damage to walls, chimneys and foundations expected 1,800 to 5,000 feet from the origin. The limits of the radial distance for light damage would range from roughly 2,700 to 10,500 feet.

It has been estimated that a bomb dropped from the air, penetrating 40 to 50 feet below surface before detonation, would cause blast damage over radii of about one-half to two-thirds of the radii for corresponding damage due to an air burst. (Reflection of the shock wave from rock strata depths of less than 200 to 300 feet would probably result in an appreciable increase in the area of damage.)

It seems highly probably that the shock and below-surface rock displacements would produce damage to any underground structures such as subways and foundations.

Wall-bearing buildings would undoubtedly collapse at considerable distances from ground zero. Wood-frame buildings would resist reasonably well. Brick piers would fall as would brick chimneys.

AIR BURST—Greatest overall destruction is caused when the bomb is exploded at an altitude of approximately 2,000 feet. The major effects of this explosion are:

Flash Heat: Within ½ mile of ground zero, flash burns caused by heat from the fire ball will be fatal to all exposed persons. Up to 1½ miles, the skin may be charred black and destroyed when unprotected. Flash fires, igniting inflammable material up to 4 miles away, create a mass of fires simultaneously over a great area, though most of these are blown out by the following winds. This heat is gone within 1 to 3 seconds after detonation.

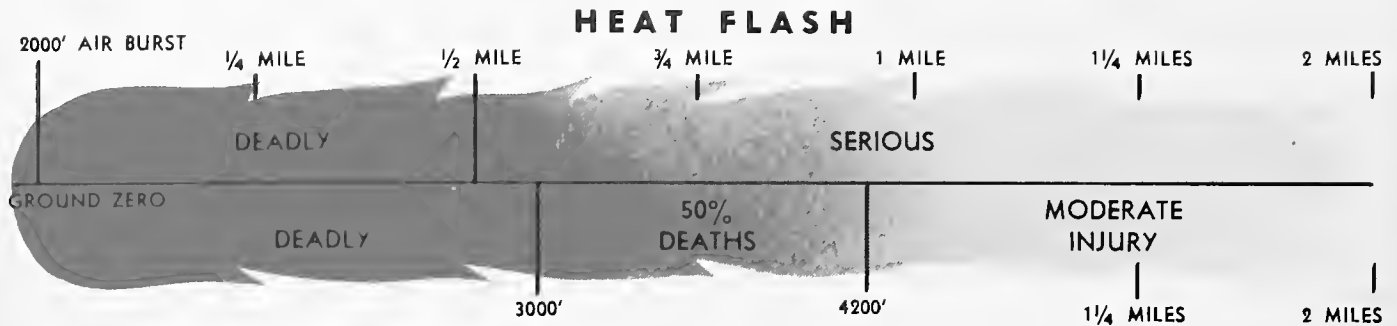
Shock Wave and Blast: When the fireball is created, a shock wave forms about it. This is a shell of air compressed so tightly that it glows whitehot and expands with tremendous force — from this expansion and the following winds greatest destruction is caused. Depending upon terrain, the wind may rip houses apart 4 miles from ground zero, cause minor damage at 6 miles and smash plaster and glass up to and beyond 8 miles.

Radiation: Two "types" of radiation are released the instant the bomb explodes. **Non-penetrating** — alpha and beta radiation — are stopped by the thinnest shielding, such as a sheet of paper or even the skin for alpha; just several hundred feet of air for beta. Neither alpha or beta radiation presents any danger from an air burst. **Penetrating radiation** — gamma rays and neutrons — are the most dangerous. Neutrons do not extend great distances from the bomb. Their greatest danger is when they penetrate objects in great strength and irradiate those objects, causing lingering contamination of dangerous intensity. Gamma rays have high penetrating powers and extend for a considerable distance from ground zero. They will probably be fatal to 50% of all exposed persons within 4,200 feet of ground zero.

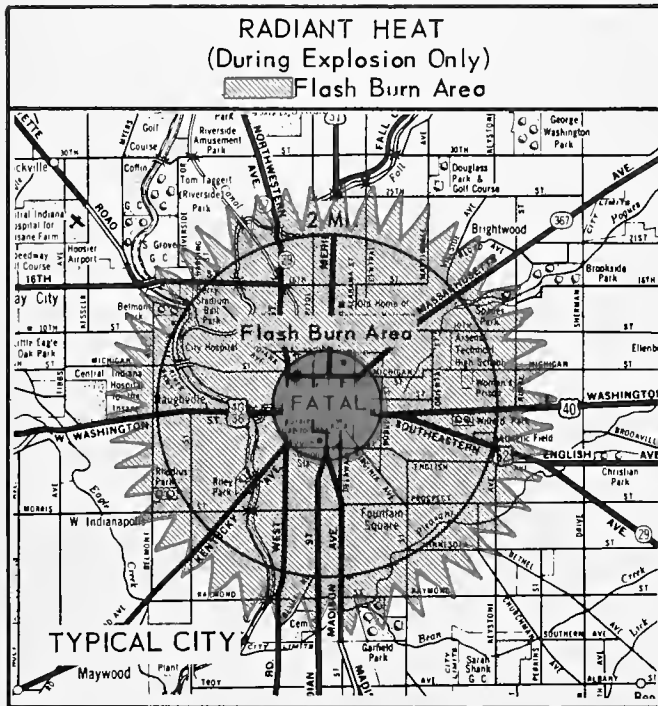
Source: AEC Effects of Atomic Weapons.



DAMAGE EFFECTS OF AN

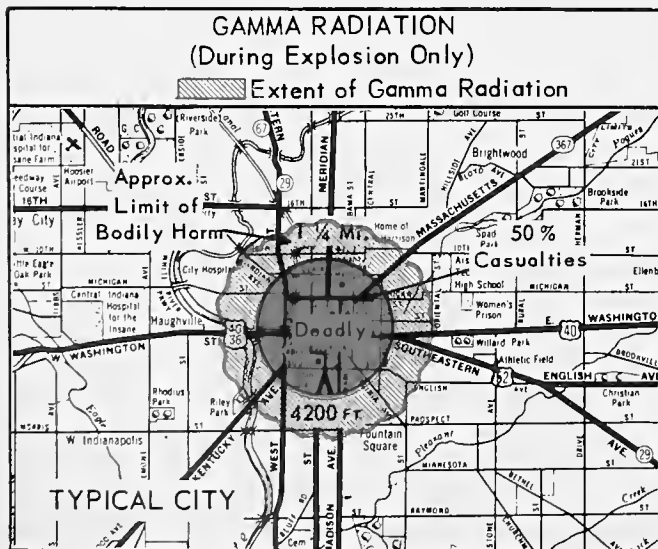


RADIATION FLASH



THERMAL EFFECTS

At the time of the explosion a terrific heat flash is generated. It goes out in straight lines from the explosion and lasts 2 or 3 seconds, but during that time it can burn unprotected skin at distances of 2 1/2 miles and has been felt up to 5 miles. It has scorched telegraph poles at 2 miles. FIRE, set directly by the flash of radiant heat, or started by the ignition of gas from disrupted mains, or short circuits, can destroy huge areas. In Nagasaki, it was estimated that almost **immediately** after the detonation, fires were started in dwellings within a radius of 3,000 feet from ground zero. Debris-choked streets usually hamper or make fire fighting difficult. **If survivors will personally fight the small fires in their immediate area, huge conflagrations may never develop.**



RADIATION EFFECTS

In an air burst, gamma rays and neutrons present the only danger. If however, a person is protected against gamma radiation, they will be safe against neutron exposure. Gamma radiation will kill half of all people fully exposed at a distance of 4,200 feet from ground zero; beyond this point the intensity falls off rapidly, and the limit at which it may cause bodily harm of any consequence is 1 1/4 miles. 50% of gamma radiation is released in the first second of the explosion, 90% in 10 seconds, and radiation emission is over within 100 seconds.

Lingering radiation (residual contamination) is impossible to detect without special instruments and personnel. Following **any** atomic explosion, obey orders of local civil defense authorities.

ATOM BOMB EXPLOSION

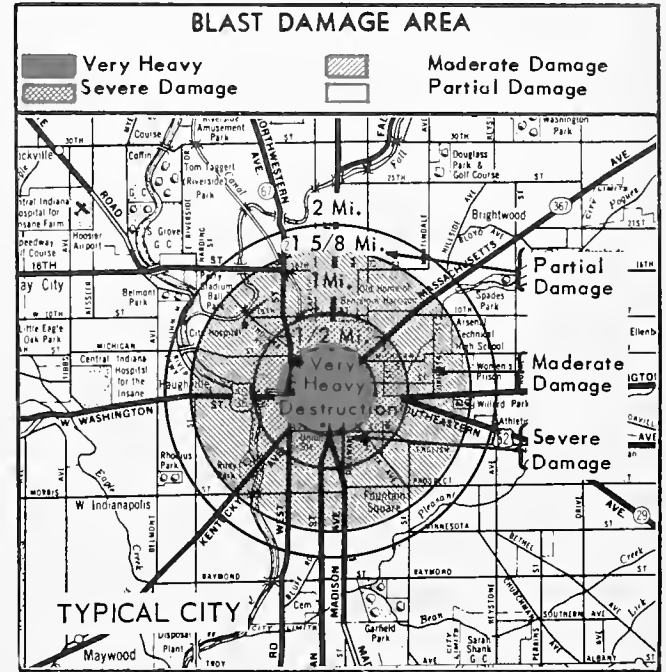
BLAST DAMAGE



GROUND ZERO VERY HEAVY 1/2 MILE DESTRUCTION SEVERE DAMAGE 1 MILE MODERATE DAMAGE 1 1/8 MILES PARTIAL DAMAGE 2 MILES LIGHT DAMAGE

BLAST DAMAGE CHART (Air Burst) (AEC)

| Feet | Damage (Statistics relate to Japanese explosions.) |
|----------|---|
| 0 | Ground Zero — or directly beneath the air burst. |
| 1,500 | Mass distortion of heavy steel frame buildings. |
| 2,000 | Limit of severe structural damage to earthquake resistant reinforced concrete buildings. |
| 2,500 | To this point virtually complete destruction of all buildings, other than reinforced concrete. |
| 3,500 | 18-inch brick walls completely destroyed. |
| 4,000 | Roof tiles bubbled for 2 seconds. |
| 4,500 | Light concrete buildings collapsed. |
| 5,000 | 12-inch brick walls severely cracked. |
| 5,500 | Electrical installations and trolley cars destroyed. |
| 6,000 | Severe damage to entire area. Severe structural damage to steel frame buildings. |
| 6,600 | Structural damage to multistory brick buildings. |
| 8,000 | Severe damage to homes, heavy damage to window frames and doors, foliage scorched. |
| 8,300 | Moderate damage to area. |
| 9,000 | Heavy plaster damage. |
| 10,000 | Blast damage to majority of homes. Severe fire damage. Flash ignition of combustible materials. |
| 10,300 | Partial damage to structures in area. |
| 11,000 | Flash charring of telegraph poles. |
| 12,000 | Light damage to window frames and doors, moderate plaster damage. |
| 12 MILES | — Windows shattered. |



of the buildings if within the primary blast area. People in basements, subways, or even the lower floors of reinforced concrete structures would be reasonably safe.



The delivery of A-bombs during World War II was entrusted to the B-29. Since that time the much larger and longer range B-36 (and B-36D) has been developed. According to U.S. Air Force figures it is capable of delivering the atomic bomb to almost any strategic enemy target and return. It weighs 163 tons, has a length of 163 feet and a wingspan of 230 feet. The B-50, an improved version of the B-29, and the new B-47 World's fastest bomber will probably be used to supplement the B-36.

While giant skyscrapers with reinforced concrete structures and long periods of vibration should withstand the shock very well the masonry would be stripped off, girders twisted and people literally blown out of the top floors

WHAT TO DO IF BOMB FALLS WITHOUT WARNING

Your first indication of an atomic bomb burst will be an awesome glare in the sky hundreds of times brighter than the sun.

DON'T LOOK AT THIS GLARE.



1. IF YOU ARE IN THE OPEN, DROP TO THE GROUND INSTANTLY, BACK TO THE LIGHT, AND TRY TO SHADE YOUR BARE FACE, NECK, ARMS AND HANDS. THIS WILL NOT PROTECT YOU FROM GAMMA RAYS BUT WILL PROTECT YOU FROM BURNS which can hurt you far beyond the limits of radiation effects. (See photo No. 1)

KEEP YOURSELF DOWN FOR AT LEAST 10 SECONDS. THE IMMEDIATE DANGER IS THEN OVER AND YOU CAN GET UP AND LOOK AROUND AND DECIDE WHAT TO DO NEXT — IF YOU ARE ABLE.

2. IF YOU ARE IN THE STREET, DUCK BEHIND A TREE OR INTO A CORNER OR A DOORWAY IF IT

IS ONE LEAP OR SO AWAY. BEND OVER, BACK TO THE LIGHT, SO AS NOT TO EXPOSE UNPROTECTED PARTS OF THE BODY — BUT IF SHELTER IS SEVERAL STEPS AWAY, DO NOT TRY TO MAKE IT. FALL TO THE GROUND AS IF YOU WERE IN THE OPEN AND THEN WAIT 10 SECONDS.

THEN PRESS YOURSELF TIGHTLY AGAINST A BUILDING IF YOU CAN, TO AVOID SHATTERED GLASS OR FALLING BRICKS. (See photo No. 2)

3. IF YOU'RE AT HOME OR IN THE OFFICE, DROP TO THE FLOOR, BACK TO A WINDOW, OR CRAWL BEHIND A DESK OR TABLE. THERE IS A LITTLE TIME LAG BETWEEN THE GLARE AND THE BLAST WAVE, SO FOR A FULL MINUTE STAY AWAY FROM THE WINDOWS AND THE DANGER OF FLYING GLASS. SAFEST PLACE INSIDE A BUILDING IS AGAINST AN INTERIOR PARTITION WHICH MAY BE STRONG ENOUGH TO RESIST COLLAPSE.

(See photos No. 3 and 3A)



AVOID PANIC — BE CALM . . . MASS HYSTERIA

WHAT TO DO IF YOU HAVE ADVANCE WARNING



AIR RAID instructions

Published by the FEDERAL CIVIL DEFENSE ADMINISTRATION

AIR-RAID ALERT
(immediate attack)

3 minute wailing siren
or short blasts

ALL-CLEAR
(attack over)

3 one minute blasts
2 minutes silence between

1. Move at once to designated shelters or disperse as directed. In the event special shelters have not been prepared, go to the nearest subway or deep basement.

2. If no adequate shelter is nearby, within 3 or 4 minutes walking distance, you can still protect yourself against flying debris and some of the heat effect. Get away from frame buildings and trees. Lie down, preferably in a ditch, behind a wall, in a ravine. Protect your eyes from the flash by covering your eyes with your arm. If not, you may be temporarily blinded. Remain under shelter for a few minutes after the blast, to be sure all flying debris has landed.

3. If able, try and help any injured people near you. Administer first aid when possible. Put out any small fires in your vicinity. Each home should have a fire extinguisher available, as chances are that city water pressure will be gone.

4. When you have done what you can in your immediate vicinity, report to the place designated by civil de-



fense authorities, as you will be needed to help in rescue work, evacuation of wounded, general fire fighting, and other emergency jobs. If no place to report has been designated, see if you can aid any of the emergency crews who will be in operation.

5. After the initial rescue work is done, check with a radiological defense man as to the safety of the area.

6. Take a shower and scrub thoroughly, with soap, three or four times to remove any radioactive materials that may have gotten on you.

7. Change your clothes, discarding the clothes you wore in the affected areas, especially shoes. **Bury them! Do not burn them!**

8. When feasible, check with a radiological defense adviser and a doctor to make sure you are well and safe.

9. Do not spread rumors. Enough confusion will exist without adding to it.



YOUR BOMB SHELTER

The head of every household should seriously consider where his family would go in the event of an air raid warning. While circumstances vary widely certain general rules will be helpful in aiding you to select the safest shelter area in your home. In the case of apartment houses, or apartment hotels, the property owner or manager should survey his building to determine the best shelter area for its occupants.

(1) In the large apartment house, or apartment hotel, several stories in height, the best shelter area may be an inside corridor, hall, or stairwell on a lower floor and as far away from outside walls as possible. In a private dwelling the basement will probably be best.

(2) Shelter area should have a minimum of glass, and in no case should area have large glass windows, or large glass doors.

(3) Shelter area should have a minimum of 2 exits.

In case of a basement one exit should be an outside one. In setting aside a basement shelter area in a private home some consideration should be given to reinforcing the ceiling of the area to prevent possible collapse of structure above into your shelter.

(4) A means of ventilation should be available, or provided. Nearby sanitary facilities would be desirable.

(5) The area should contain no steam furnace, or boiler; no large gas mains, or steam pipes, unless these can be cut off where they enter the building.

(6) There should be no inflammable, or corrosive, liquids stored in the area.

(7) Some means of emergency lighting (battery operated) should be provided; also emergency communications.

(8) Area should be large enough so that each occupant will have at least 6 square feet of floor space.

EQUIPMENT AND SUPPLIES FOR YOUR BOMB SHELTER

Your bomb shelter should be equipped with certain necessary items that may be extremely valuable when it comes time to emerge into the bomb-blasted outer world.

FLASHLIGHT OR BATTERY-OPERATED LIGHTING FACILITIES—will be found valuable since all light circuits will be put out of commission at the time of the burst.



FIRST-AID KIT—will be found essential for rendering aid to injured or to members of your own family or group.



Individual items in FCDA officially recommended first-aid kit are listed on opposite page.

PORTABLE RADIO—to keep you in contact with emergency broadcasts concerning the disaster.



FOOD AND WATER—A few cans of staple food and water in a tightly sealed jar may be most useful. Properly covered or canned foods should undergo little or no contamination. Contaminated water, when distilled, is perfectly safe for drinking purposes. The radioactive material remains behind in the residual scale and brine. **MERE BOILING OF WATER CONTAMINATED WITH RADIOACTIVITY IS OF NO VALUE.**



FIRE EXTINGUISHER—A small hand fire extinguisher will permit you to put out any small fires in your immediate vicinity. This may prevent these fires from spreading into a general conflagration and will be a godsend to the firefighting groups which will have their hands full trying to cope with major fires.



GLOVES—Heavy work (cotton or leather) gloves will be helpful in the event of attempting to move heavy timbers or in working in debris.



BLANKETS—may be needed for warmth or shock protection.



TOOLS—of a simple nature, such as a shovel, saw, hammer, hand ax, crow bar, pliers, knife, etc., may be necessary to remove debris from exit of your own shelter or in doing rescue work.



COVERALLS—(Loose fitting to tuck into your boots or overshoes) will provide an effective and practical working outfit that can later be discarded along with your other clothes when you have left the radioactive area.

BOOTS OR OVERSHOES—will prevent radioactive particles adhering to your shoes and at the same time will be most helpful in working in flooded areas. If overshoes or boots are not handy, you can wrap your shoes with cloth which can be discarded later along with any radioactive particles.





if bombs should fall...how to care for the injured

EXAMINE PATIENT CAREFULLY

- Control excessive bleeding if present. (See below)
- Provide artificial respiration if breathing is stopped.
- If you suspect extensive injury—even though not sure—treat patient as if injury is present.
- Use lipstick on forehead to mark tourniquet cases with a "T" and patients who have been bleeding heavily with an "H." (for hemorrhage).
- Splint all fracture cases before moving. A magazine or similar item fastened around the injured area will do.

CONTROL OF BLEEDING

- All bleeding must be stopped. Even slight loss of blood over an extended period of time may be fatal.
- Direct pressure applied over or on larger wounds with sterile gauze or reasonably clean cloth will control most bleeding. (Should always be tried first.)
- Along with direct pressure on the wound, pressing with the fingers on pressure points between the wound and the heart will often stop arterial bleeding.
- A tourniquet on the limbs should be used only in most extreme cases of bleeding. If used, tourniquet must be loosened every 15 minutes for a period of 7 or 8 seconds.

SHOCK

Shock is brought on by a sudden or severe physical injury or emotional disturbance. In shock, the balance between the nervous system and the blood vessels is upset. The result is faintness, nausea, and a pale and clammy skin. If not treated the patient may become unconscious, and eventually lapse into a coma.

Treatment

- Keep patient lying down.
- Don't give fluids unless delayed in getting to doctor, then give water. (Some medical authorities suggest giving patient salt and soda solution—1 tsp. salt, ½ tsp. soda to qt. of water.)
- Never give liquid to an unconscious person.
- Cover patient both under and around his body.
- Do not permit patient to become abnormally hot.
- Reassure patient, and avoid letting him see other patients, or his own injury.

BURNS

When skin isn't broken, apply petroleum jelly or burn ointment to area and bandage snugly with sterile gauze or gauze soaked in a solution of baking soda (3 tbs. to qt. of water). If burn is deep or covers much of the body, apply sterile gauze or clean cloth with baking soda solution, or dry dressing. (Never use grease or ointment) Call doctor and keep patient warm (not hot) and in prone position with head covered; avoid exposure to cold.

- If burn case must be transported a short distance, cover burns with clean cloth.
- Don't dress extensive facial burns. (Doing so may hinder early plastic surgery.)

WOUNDS **Minor Cuts:** apply pressure with sterile gauze until bleeding stops. Use antiseptic recommended by your doctor. Bandage with sterile gauze. **Minor Scrapes:** if dirty, wash with mild soap and water, blot dry and cover scraped area with recommended antiseptic. Allow to dry—no bandage necessary. If scrape is deep and dirty, see your doctor. **Puncture Wounds:** if puncture wound extends deeper than skin surface, try to induce bleeding. Cover with sterile gauze and consult doctor immediately. Serious infection can arise unless properly treated.

SPRAINS Elevate injured part and apply ice bag or cold cloth immediately after injury to reduce swelling. If swelling is pronounced, do not attempt to use injured part until seen by doctor. All serious "sprains" should be X-rayed for possible fractures.

FRACTURES

Pain, deformity or swelling of injured part usually means a fracture. If fracture is suspected, don't move person unless absolutely necessary, and then only if the suspected area is splinted. Give small amounts of lukewarm fluids and treat for shock.

EYE INJURIES

Foreign Bodies: remove by gently touching with moist point of clean handkerchief. Apply mineral oil or castor oil to corner of eye, and allow to flow over eye.

Chemicals: if any chemical spatters into eye, wash with milk or running water . . . without pressure. Apply two or three drops of mineral or castor oil and consult doctor at once.

Wounds: if eyeball is involved or dimness of vision is prolonged, get patient to doctor immediately. Cover both eyes with loose dressing.

UNCONSCIOUSNESS Never attempt to give anything by mouth. Lay patient flat, turn head slightly to one side, loosen any tight clothing about neck. Always summon a doctor unless you are sure it is a simple fainting spell. In simple faint, lower patient's head to restore circulation.

RADIOACTIVITY PRECAUTIONS

Although not as dangerous as other injuries, the effects of radiation should be guarded against, especially if you were within one mile of an atom bomb explosion, and were not adequately protected by shelter at the time of the blast.

- As soon as possible, remove all outer clothing.
- Scrub body vigorously with soap and water, paying special attention to skin folds, hair and finger nails.
- Bury contaminated clothing.
- If you suspect radiation injury (indicated by pallor, continued bleeding, undue fatigue, or infected wound), see doctor at once.

CIVIL DEFENSE HOUSEHOLD FIRST AID KIT



These emergency first aid items are for a family of four persons or less. Assemble them, then wrap in a moisture-proof covering and place in an easily carried box. Paste this sheet to the box cover and place the box in your shelter area.

| FIRST AID ITEM | QUANTITY | USE |
|--|--------------------------------|--|
| 1. Antiseptic Solution Benzalkonium Chloride Solution, 1 to 1000 parts of water. | 3 to 6 oz. bottle | For open wounds, scratches and cuts. Not for burns. |
| 2. Aromatic Spirits of Ammonia | 1 to 2 oz. bottle | For faintness, adult dose ½ teaspoonful in cup of water; children 5 to 10 drops in ½ glass of water. As smelling salts hold bottle under nose. |
| 3. Table Salt | 1 box | For shock—dissolve 1 teaspoonful salt and ½ teaspoonful baking soda in 1 qt. water. Have patient drink as much as he will. Don't give to unconscious person or semiconscious person. If using substitutes dissolve six 10-gr. sodium chloride tablets and six 5-gr. sodium bicarbonate (or sodium citrate) tablets in 1 qt. water. |
| 4. Baking Soda | 8 to 10 oz. box | For some slight protection against nerve gas—dissolve 4 teaspoonfuls of baking soda in 1 qt. water. Wash parts of body exposed to nerve gas with it or saturate cloth and place over face as gas mask. |
| 5. Triangular Bandage compressed, 37 x 37 x 52 in., folded, with 2 safety pins. | 4 bandages | For a sling; as a covering; for a dressing. |
| 6. Large Bath Towels | 2 | For bandages or dressings: Old soft towels and sheets are best. Use as bandages or dressings. Cut in sizes necessary to cover wounds. Towels are burn dressings. Place over burns and fasten with triangular bandage or strips of sheet. Towels and sheets should be laundered, ironed, and packaged in heavy paper. Relaunder every 3 months. |
| 7. Small Bath Towels | 2 | |
| 8. Bed Sheet | 1 | |
| 9. Medium First Aid Dressing 8 in. by 7½ in., folded, sterile with gauze enclosed cotton pads. Packaged with muslin bandage and 4 safety pins. | 2 | For open wounds or for dry dressings for burns. These are packaged sterile. Don't try to make your own. |
| 10. Small First Aid Dressing 4 in. by 7 in., folded, sterile with gauze enclosed cotton pads and gauze bandage. | 2 | |
| 11. Paper Drinking Cups | 25 to 50 | For administering stimulants and liquids. |
| 12. Eye Drops, Castor Oil | ½ to 1 oz. bottle with dropper | For eyes irritated by dust, smoke or fumes. Use 2 drops in each eye. Apply cold compresses every 20 minutes if possible. |
| 13. Flashlight | 1 | Electric lights may go out. Wrap batteries in moisture proof covering. Don't keep in flashlight. |
| 14. Safety Pins, 1½ in. long | 15 | For holding bandages in place. |
| 15. Razor Blades, Single Edge | 3 | For cutting bandages and dressings, or for removing clothing from injured part. |
| 16. Toilet Soap | 1 bar | For cleansing skin. |
| 17. Splints, Plastic, Wooden, ⅛ to ¼ in. thick, 3½ in. wide by 12 to 15 in. long. | 12 | For splinting broken arms or legs. |
| 18. Tongue Blades, Wooden | 12 | For splinting broken fingers or other small bones and for stirring solutions. |
| 19. Water Purification Tablets | Bottle of 100 | For purifying water when it can't be boiled, but tap water officially declared radioactive must not be used for any purpose. |
| 20. Measuring Spoons | 1 set | For measuring or stirring solutions. |

PERSONAL INJURY EFFECTS

INJURIES FROM ATOMIC EXPLOSION

- I. Those caused when buildings are wrecked.
- II. Those caused from radiant heat.
- III. Those caused by burns, either in the wreckage or otherwise.
- IV. Those caused by nuclear radiation.
- V. Those caused through residual contamination.

BLAST INJURIES

Direct blast injury may occur whenever the greatly increased air pressure comes into contact with body surfaces, causing multiple hemorrhages, particularly of the intestinal tract, the stomach, the lungs, the ears, and the sinuses about the nose. Direct blast is not a significant primary cause of death. Most blast injuries are the result of missiles, such as broken glass, falling bricks, etc.

The shock wave from the blast sweeps outward rapidly from ground zero and, in the case of Japan, took up to 10 seconds to travel 2 miles.

In the water, the dangerous level for pressure is about 500 pounds per square inch. In an underwater atomic explosion, any person immersed in the water probably would be killed or seriously injured up to 2,000 yards from the zero point.

Since practically all brick and light masonry buildings with weight-bearing walls in the blast area will be wrecked, wooden buildings flattened, and the doors and other partitions of blast-resistant steel-reinforced concrete buildings blown out, people in or near these buildings will be killed or injured by collapse of structures, and by missile effects of debris.

FLASH BURNS

The flash burns caused by an atomic explosion may be first degree, merely reddening the skin; second degree, causing blisters; or third degree, damaging all layers of the skin.

Severe burns are caused both by the radiant heat from the explosion of the atomic bomb (flash burns) and from the fires that break out in the wreckage (flame burns). The effects of visible light probably are not significant. Even those who look directly at the burst apparently suffer only temporary dazzling and loss of vision.

Atomic bomb flash burns are distinctly different from those caused by other types of explosions, since they are due to radiant heat rather than to hot gases, as in the case of shell bursts or gasoline explosions. Shadow effects are prominent. An ear, for example, might be badly burned, yet the skin behind the ear be unharmed.

As compared with flame burns, flash burns show a much smaller depth of penetration of the skin. This is due to the fact that the thermal radiation flash lasts only approximately 3 seconds. Within the depths to which the thermal radiations penetrate, the tissues appear to be completely destroyed; in a radius of 3600 feet from ground zero blackening

GENERAL

There are no particular problems involved in the treatment of individual injuries received as a result of an atomic attack. Standard treatment procedures can be used in treating mechanical injuries (cuts, lacerations, broken bones, concussions, etc.), burns, shock and radiation effects. Problems of a more serious nature are involved in the necessity of treating thousands of individual cases almost at once, in the immediate need for mountains of medical supplies and prompt evacuation of seriously injured to hospitals outside of the disaster area. There is nothing mysterious about radiation, as man is subject to a constant bombardment of cosmic rays. He accumulates minute amounts of radium in his body through life, and X-rays are used extensively in the treatment of certain illnesses. The only difference in atomic radiation is in the types of rays and the intensity.

FLAME BURNS

A conflagration may be expected to follow any atomic bomb blast. Fire damage light in underwater bursts.

Burns suffered from flames, in such cases, differ in no way from those encountered in any ordinary intense fires unless radiation injury has also been suffered. In Japan, there were many cases where excessive scar tissue (keloids) formed, and many of the survivors have contraction deformities not specifically related to exposure to the atomic bomb, but rather to slow healing, improper care, and infection. Burns suffered in non-atomic bomb raids resulted in comparable amounts of scar tissue, a tendency in Japanese as a race.

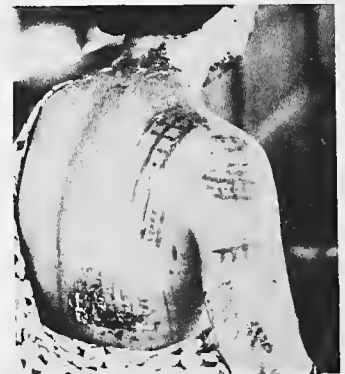
It would be unrealistic to prepare for fewer than 40,000 to 50,000 severely burned persons from a single atomic explosion. Fortunately, severe symptoms from radiation in those not killed outright do not ordinarily come on until several days after the acute exposure, so that those suffering from burns and mechanical injuries will actually constitute the chief immediate medical problem and make their heaviest demands on emergency facilities at a time when those suffering solely from acute radiation will require very little attention.

indicates that actual charring has occurred.

Direct injury from radiant heat occurs at the explosion of the bomb; Japanese people in the open suffered third-degree burns up to 1,500 yards and second-degree burns up to 2,500 yards. The effect was instantaneous.

Even loose clothing afforded some protection against atomic flash burns, and color also had a protective effect. White clothing tended to reflect the radiant heat, darker clothing to absorb heat. Burns sometimes were cross-hatched where light clothing was marked with dark lines. Tight clothing was less protection, and burns were inflicted at elbows and where straps crossed the shoulders, for example, while other places where clothing was loose were protected or less severely burned.

As far as burning caused by thermal radiation is concerned, the essential points are protection from direct exposure for human beings and the avoidance of easily combustible materials, especially near windows.



IS OF AN ATOMIC BLAST

RADIATION INJURIES

Because of the concentration of ionizing radiation nearly everyone not protected by earth, steel, or thick concrete within a radius of approximately 3000 ft. would probably die. The most serious cases would succumb within a few hours to 4 or 5 days after exposure. A second group would develop susceptibility to infection due to destruction of their white blood cells and would die from 4 days to 6 weeks after exposure. Another group would incur multiple hemorrhages and die within 2 to 3 weeks from this cause.

THEIR TREATMENT

Many people believe that very little can be done in treatment of radiation casualties. This is true of a lethal

GENERAL

There is little about the effects of either old or new weapons which is new to the health professions. The atomic bomb produces burns, lacerations, amputations, crushing injuries, and blast injuries which all surgeons are accustomed to treating. Radiation sickness is a new type of wartime injury, but it is not a new disease and its symptoms are recognized by physicians, particularly radiologists.

When the dose is 400 r or less, many lives can be saved with proper treatment. Immediate hospitalization, so as to insure complete rest, and avoidance of chills and fatigue, is the first step. Whole blood transfusions should be given as required, until the bone marrow has had time to regenerate blood cells. Adequate nourishment should be provided by intravenous feeding to supply necessary sugars, proteins, vitamins, etc. Infection may be controlled by the use of penicillin and other antibiotics.

Findings in Japan show that people exposed to heavy radiation suffer various injuries, sicknesses, and malfunctions which together are called the **acute radiation syndrome**. Physicians find that the severity of the symptoms is related importantly to two factors: The amount of radiation absorbed in a single dose, and the proportion of the body exposed.

No unusual ill effects directly attributable to ionizing radiation have occurred among Japanese survivors. Whether or not such after-effects will occur among these survivors will have to be answered in the future. After-effects from radiation exposure that cannot be fully assessed for many years are effects on heredity and effects on fertility. From investigations, it is found that the likelihood of parents having deformed children after suffering sublethal amounts of ionizing radiation is very slight.

With adequate warning which is heeded and adequate shelters which are occupied, the casualties can be greatly reduced. Furthermore, doctors with ample medical supplies, hospital facilities, and blood banks can save many of those injured by blast or burns.

GAMMA RAYS

Gamma rays are very similar to powerful X-rays and constitute the greatest radiological danger in an atomic blast. They penetrate deeply into the body and ionize the carbon, nitrogen, hydrogen, and oxygen atoms, disrupting the complex body combinations of these elements, changing the proteins, enzymes and other substances that make up our cells and bodies. As a result, the cells are injured or killed; if enough cells are damaged or killed, the person becomes seriously ill or dies.

dose; but many borderline cases can be saved by:

- a. Good medical care.
 - b. Whole blood transfusions. It has been estimated that, for a catastrophe such as at Hiroshima, approximately 250,000 pints of blood would be needed, 80,000 per week for the first 3 weeks.
 - c. Control of infection by antibiotics such as penicillin and aureomycin.
 - d. Intravenous feeding to supply necessary sugars, proteins and vitamins.
 - e. Control of the bleeding tendency by use of drugs.
- Whole blood would be required in great quantities, primarily to treat the casualties suffering from mechanical injuries and burns, secondarily to treat victims of ionizing radiation.

One may receive radiation producing far more serious tissue damage than a severe burn without any sensation and no damage will be apparent for several days.

In the case of such a high air blast as in Japan, some 15 to 20 per cent of the deaths probably will be caused solely by nuclear radiation. The remaining 80 to 85 per cent will be caused primarily by injuries suffered in the collapse of buildings and by burns, although many of these may also suffer severe radiation exposure.

CONTAMINATION

The chief external radiation hazard in a contaminated area will come from gamma rays thrown off by fission products or by materials made radioactive by neutrons during the explosion. Filter masks, clothing tight at the wrists, ankles, and neck, and tight-wristed gloves will afford protection against Alpha and Beta particle contamination. Material heavily contaminated with Beta-emitting material should not, however, be handled, even with gloved hands, since it can cause radiation burns. Tongs or equivalent instruments should be used. Clothing should be discarded at the edge of the contaminated area to avoid spreading radioactive contamination. Thorough soap-and-water bathing would be a valuable precaution.

Gamma radiation from contamination will not approach the power of direct bomb radiation, but it still can be severe. The best protection against contamination that gives off gamma radiation is to use instruments to detect its presence and to avoid any areas of dangerous concentration.

At a bomb burst, contaminated particles of the size which will most readily pass from the small airpockets of the lung into the blood stream ascend rapidly into the atmosphere. The chances of inhaling a dangerous amount of these small particles is small unless explosion occurs during rain or heavy overcast.

Any wound suffered in a contaminated area should be cared for in the same manner as any similar injury in an uncontaminated area. Clean such a wound with soap and water, cut out the damaged tissue, and cover the wound. Amputation is not indicated.

WHAT YOU SHOULD KNOW ABOUT GERM WARFARE

BIOLOGICAL ATTACKS COULD BE MADE BY ENEMY FORCES, OR SECRET AGENTS.
THE ATTACKS COULD BE AIMED AT PEOPLE, ANIMALS, OR FOOD CROPS.
BUT GERM WARFARE IS NO SECRET SUPER-WEAPON. THERE ARE DEFENSES AGAINST IT.

WHAT IS BIOLOGICAL WARFARE?

Biological Warfare (BW), sometimes called "Germ Warfare," can be divided into three classifications. (1) Attacks with Germs (bacteria, viruses, and other small living things which cause sickness or death in people, animals or plants). (2) Attacks with "toxins" (special kinds of poisons produced by some living things, such as plant-like germs). (3) Attacks with special kinds of chemicals known as artificial hormones, sometimes called "growth regulators," such as those used to kill weeds and other unwanted plants.

germs can be spread in artificial mists called aerosols. Bathroom atomizers, DDT bombs and spray guns produce small-scale aerosols. Much bigger aerosols could be released by special sprayers in low-flying planes, or exploded from specially designed bombs carried by planes or submarines.

According to People Today, an enemy agent placing a germ laden aerosol into the Pentagon's air conditioning system could at one stroke wipe out most of this country's military leadership. Anyone with a small pump and a knowledge of plumbing could contaminate a large city's water supply.

Fifth columnists might pollute factory food and water supplies. They might try to spread wheat rust, or loose "fowl pest" in our poultry flocks to cut down food supplies.

HOW CAN WE PROTECT OURSELVES FROM BW?

Your job will be to help health officers, veterinarians, and plant specialists who are already being instructed in BW defense.

Doctors and veterinarians may be requested to make reports of unusual illnesses among people or animals in an emergency. Large numbers of school absences might be the first signs of a sneak BW attack.

In emergency times inform your doctor of any strange or unusual sickness in your family. If the food or water at your place of business should make you ill report the fact to your supervisor at once.

If chickens or cattle get sick, farmers should call a veterinarian. Notice of anything out of the ordinary in garden plants or field crops should be reported to the county farm agent or to civil defense.

WHAT ARE THE BIG DANGERS FROM BW?

The big danger from BW lies in new methods of spreading old diseases. For example

KILL THE MYTHS

GERM WARFARE WILL NOT KNOCK OUT ENTIRE CITIES

Germ warfare, or biological warfare as it is correctly called, is a special weapon for use against special targets. No kind of biological warfare could kill or sicken every person in a large area or city.

TALK OF POISONS THAT CAN KILL MILLIONS IS NONSENSE

Toxins, which are special kinds of poisons, can be deadly. But there are definite, practical limits to distributing them. Talk of one ounce killing millions of people is silly. You might as well talk of dividing one aspirin evenly among the 11 million people in the greater New York area.

NO "MYSTERY GERMS" CAN CAUSE TERRIBLE EPIDEMICS

Epidemics are not likely to be caused by biological warfare. And even if one were caused, we probably could stamp it out quickly. The reason plagues used to sweep through whole populations is because our ancestors did not have the fine health safety systems that we have today.

FOUR KEYS TO HOUSEHOLD SAFETY

KEEP THE HOUSE SPIC AND SPAN

Germs don't like clean houses. They do like warm, dirty corners and heaped-up rubbish. So keep the house and yard clean. Keep garbage and refuse covered and get rid of it regularly.

AIR BEDDING, RUGS AND CLOTHING.

Sunlight and fresh air are among a germ's worst enemies. Airing blankets, mattresses, clothing, and rugs is healthy, even when there is no danger of biological attack.

KEEP THE FAMILY HEALTHY

Wash your hands properly before eating or drinking. See that the children do, too. That is just good, common sense. But be a little firmer than usual.

CLOSE UP HOUSE IN CASE OF ATTACK

A closed house would give some protection even against germ-filled aerosols, or mists.

SIX SURVIVAL SECRETS FOR BIOLOGICAL WARFARE

ALWAYS PUT FIRST THINGS FIRST

1. KEEP YOURSELF AND YOUR HOME CLEAN.

Don't help germs by making things easy for them. Germs have trouble living in clean places, and people who keep clean are less likely to get sick.

2. REPORT SICKNESS PROMPTLY.

If you or your family get sick, never fail to tell your doctor. If you live on a farm, report all sicknesses or deaths among your poultry or livestock. Report plant diseases or unusual insects you find in your garden or crops.

3. GIVE ALL POSSIBLE HELP TO AUTHORITIES.

If you're asked for a blood sample, give it. If you're told a "shot in the arm" or vaccination is needed by all, don't hold back. Keep your neighborhood clean - starting now.

NEVER LOSE YOUR HEAD.

4. DON'T RUSH OUTSIDE RIGHT AFTER A BOMBING.

Unless you have a civil defense job to do, stay inside until the all clear signal is given. Cover broken windows to keep out possible contamination.

5. DON'T TAKE CHANCES WITH FOOD AND WATER IN OPEN CONTAINERS.

Bottled or canned foods would be safe after a BW attack, if containers were'nt broken. But foods in the open might be contaminated. If in doubt, boil for 10 minutes. That will kill most germs.

6. DON'T START RUMORS - DON'T BELIEVE WILD STORIES.

Start a rumor and you may start a panic. A panic could cost your own life. So disregard wild talk about biological warfare and don't pass it on to your friends.

HELP PROTECT OUR COUNTRY

The President of the United States in restating the responsibilities of the Federal Bureau of Investigation has called upon all law enforcement officers, patriotic organizations and individuals to report information pertaining to es-

pionage, sabotage and subversive activities to the FBI.

The following suggestions listed on this page are offered to assist patriotic organizations and individuals in complying with the President's request.

WHAT YOU CAN DO

1. THE NEAREST FBI OFFICE IS LISTED ON PAGE 1 OF YOUR TELEPHONE DIRECTORY. YOU CAN COMMUNICATE WITH THE FBI BY TELEPHONE, LETTER OR CALL AT OUR NEAREST OFFICE.

2. Furnish all facts in your possession. Many times a small bit of information might furnish the data we are seeking. If you have any information on sabotage, espionage, or subversive activities, contact the FBI.

3. The FBI is interested in receiving facts; we are not interested in what a person thinks but in what he does which undermines our internal security. Avoid reporting malicious gossip or idle rumors.

4. Do not circulate rumors about subversive activities, or draw conclusions from information you furnish the FBI. The data you possess might be incomplete or only partially accurate. By drawing conclusions based on insufficient evidence grave injustices might result to innocent persons.

5. Once you have reported information to the FBI do not endeavor to make private investigations. This can best be done by trained investigators who have access to data acquired over the years on individuals engaged in subversive activities. Hysteria, witch hunts and vigilantes weaken internal security. Investigations involving internal security require care and painstaking effort. We all can contribute to our internal security by protecting the innocent as well as by identifying the enemies within our midst. In cases involving espionage it is more important to identify spies, their contacts, sources of information, and methods of communications than to make immediate arrests.

6. Be alert. The greatest defenders against sabotage are the loyal American workmen who are producing the materials and weapons for our defense. They can be the "watch dogs" of defense in every walk of life.

7. The forces which are most anxious to weaken our internal security are not always easy to identify. Communists have been trained in deceit and secretly work toward the day when they hope to replace our American way of life with a Communist dictatorship. They utilize cleverly camouflaged movements, such as some peace groups and civil rights organizations, to achieve their sinister purposes. While they as individuals are difficult to identify, the Communist Party line is clear. Its first concern is the advancement of Soviet Russia and the godless Communist cause. It is important to learn to know the enemies of the American way of life.

John Edgar Hoover, Director
Federal Bureau of Investigation

RED CORE POISED TO STRIKE US

J. Edgar Hoover testifying before a senate appropriations subcommittee said that the fifth column menace from 43,217 known Communists is "far greater than in the last war with the Nazis and subversive elements.

Continuing he stated the Communists "for strategic purposes are emphasizing the need to infiltrate heavy industries such as coal, steel rubber, machinery, transportation, mines and factories engaged in vital defense efforts.

He said their concentration is strongest in such industrial centers as New York, California, Illinois, Michigan, Ohio and Pennsylvania,

"The interruption of the flow of military supplies to our armed services and the undermining of the Civilian will to resist a campaign of sabotage could be as successful as military action against our fighting forces."

REPORT THESE MATTERS DIRECT TO FBI

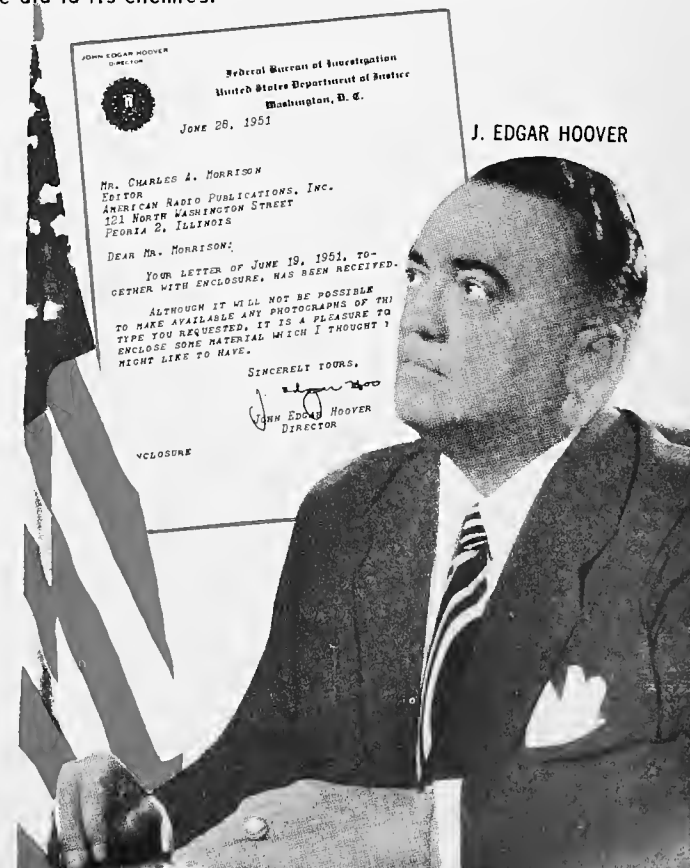
The public should be alert to report all information directly to the FBI which relates to the following specific matters:

1. Allegations of espionage, sabotage, or subversive activities.
2. Foreign submarine landings.
3. Suspicious parachute landings.
4. Possession and distribution of foreign-inspired propaganda.
5. Theft or unauthorized possession or purchase of large quantities of firearms, ammunition or explosives, or short-wave transmitters and receivers.
6. Poisoning of public water supplies.
7. Chartering of airplanes for flights over restricted areas.
8. Fires and explosions of an unusual nature affecting any phase of the defense program.
9. Suspicious individuals loitering near restricted areas.
10. Possession of radio-active materials.

Espionage may be generally defined as the obtaining of confidential information regarding the national defense and furnishing it to unauthorized persons to the detriment of the United States or the advantage of a foreign power.

Sabotage is any act designed to destroy or damage national defense materials - to impede production, injure plant premises, to destroy public utilities, or to produce defective national defense goods.

Under the term "subversive activities" would be activities on the part of any individual or organization which are intended to forcibly overthrow the American government or to give aid to its enemies.



HAROLD H. VELDE, M.C.
 Ranking Minority Member,
 Un-American Activities
 Committee
 (Formerly with FBI)

SUBVERSIVE ORGANIZATIONS IN THE U. S.



U. S. House of Representatives
 Washington, D. C.

American Radio Publications, Inc.
 121 N. Washington St.
 Peoria, Illinois

Gentlemen:

In order to enable the American public to better understand the technique used by subversives, The House Un-American Activities Committee has compiled and published a list of Communist "front" groups and subversive organizations.

This is an accurate and reliable list which can be used as a guide by our American citizenry to the destructive forces operating in our nation.

The Committee desires to make clear, however, that a great many loyal and patriotic Americans who may find that they are members or sponsors of one or more of the organizations listed, need have no cause for alarm. They should make immediate inquiry and examination into the operation and management of the group in which they are interested before continuing their memberships or joining such group.

Respectfully yours,
Harold H. Velde
 HAROLD H. VELDE, M.C.
 Ranking Minority Member
 Un-American Activities Committee

- There are easy tests to establish the real character of such organizations:
1. Does the group espouse the cause of Americanism or the cause of Soviet Russia?
 2. Does the organization feature as speakers at its meetings known Communists, sympathizers, or fellow travelers?
 3. Does the organization shift when the party line shifts?
 4. Does the organization sponsor causes, campaigns, literature, petitions, or other activities sponsored by the party or other front organizations?
 5. Is the organization used as a sounding board by or is it endorsed by Communist-controlled labor unions?
 6. Does its literature follow the Communist line or is it printed by the Communist press?
 7. Does the organization receive consistent favorable mention in Communist publications?
 8. Does the organization present itself to be nonpartisan yet engage in political activities and consistently advocate causes favored by the Communists?
 9. Does the organization publicly denounce American and British foreign policy while always lauding Soviet policy?
 10. Does the organization utilize Communist "double talk" by referring to Soviet-dominated countries as democracies, complaining that the United States is imperialistic and constantly denouncing monopoly-capital?
 11. Have outstanding leaders in public life openly renounced affiliation with the organization?
 12. Does the organization, if espousing liberal progressive causes, attract well-known honest patriotic liberals or does it denounce well-known liberals?
 13. Does the organization have a consistent record of supporting the American viewpoint over the years?
 14. Does the organization consider matters not directly related to its avowed purposes and objectives?

This is a condensed list of organizations listed as subversive by the House Un-American Activities Committee and the U. S. Attorney General's Office.

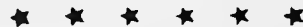
- Abolish Peonage Committee
- Abraham Lincoln Brigade or Battalion
- Academic and Civil Rights Committee
- Actors Laboratory
- Actors' Laboratory Theatre
- African Blood Brotherhood
- All-American Anti-Imperialist League
- Allied Labor News Service
- Allied Voters Against Couderst
- Almanac Singers
- American Artists Congress
- American Association for Reconstruction in Yugoslavia
- American Association of Scientific Workers
- American Committee for a Korean People's Party
- American Committee for Democracy and Intellectual Freedom
- American Committee for European workers' Relief
- American Committee for Free Yugoslavia (The)
- American Committee for Friendship with the Soviet Union
- American Committee for Protection of Foreign Born
- American Committee for Russian Famine Relief
- American Committee for Spanish Freedom
- American Committee for Struggle Against War
- American Committee for Yugoslav Relief
- American Committee of Jewish Writers, Artists, and Scientists
- American Committee to Aid Korean Federation of Trade-Unions
- American Committee to Aid Soviet Russia
- American Committee to Save Refugees
- American Congress for Peace and Democracy
- American Congress to Free Earl Browder

- American Council, Institute of Pacific Relations
- American Council on Soviet Relations
- American Federated Russian Famine Relief Committee
- American Federation for Political Unity
- American Friends of the Chinese People
- American Friends of the Mexican People
- American Friends of the Spanish People
- American Fund for Public Service (Garland Fund)
- American Investors Union, Inc.
- American Labor Party
- American Labor Committee Against War
- American League Against War and Fascism
- American League for Peace and Democracy
- American Negro Labor Congress
- American Peace Crusade
- American Peace Mobilization
- American Round Table of India
- American Russian Institute for Cultural Relations with the Soviet Union
- American Russian Institute (New York & Philadelphia)
- American Russian Music Corporation
- American Slav Congress
- American Society for Cultural Relations with Russia
- American Student Union
- American Writers Congress
- American Youth Congress
- American Youth for Democracy
- All Harlem Youth Conference
- American Friends of Spanish Democracy
- American Investors Union, Inc.
- American Jewish Labor Council
- American Labor Alliance
- American Labor Party

- American League of Ex-servicemen
- American People's Fund
- American People's Mobilization
- American Polish Labor Council
- American Pushkin Committee
- American Relief for Greek Democracy
- American-Russian Fraternal Society
- American Russian Institute (New York)
- American Russian Institute (Philadelphia)
- American-Soviet Science Society
- American Soviet Music Society
- American Youth for a Free World
- Appeal for Lawrence Simpson Artef
- Artists' Front to Win the War
- Associated Film Audiences
- Associated Magazine Contributors
- Book Find Club
- Book Union
- Boston School for Marxist Studies
- Carpatho-Russian Peoples Society
- Cervantes Fraternal Society
- China Aid Council
- Citizens' Committee for Better Education
- Citizens' Committee of the Upper West Side
- Citizens' Committee for Harry Bridges
- Citizens' Committee on Academic Freedom (The)
- Civil Rights Congress
- Committee for Citizenship Rights
- Committee For the First Amendment
- Committee on One Thousand
- Congresa of American Women
- Congress of American-Soviet Friendship
- Connecticut State Youth Conference
- Consumers Union
- Council on African Affairs
- Citizens' Committee for the Defense of Mexican

ENEMIES FROM WITHIN

- American Youth
 Citizens Committee to Support Labor's Right
 Civil Rights Federation
 Committee for a Democratic Far Eastern Policy
 Committee for Civil Rights for Communists
 Committee for Peace through World Cooperation
 Committee for the Care of Young Children in
 Wartime
 Communist Information Bureau (Cominform)
 Conference for Democratic Action
 Conference on Constitutional Liberties in America
 Conference on Pan American Democracy
 Consumers' National Federation
 Contemporary Theatre
 Council of United States Veterans
 Daily Worker Press Club
 Daily Worker Publishing Co.
 Daughters of the American Depression
 Descendants of the American Revolution
 Detroit Youth Assembly
 Down Town Forum
 Dramatic Workshop
 Exiled Writers Committee
 Federated Press
 Film Audiences for Democracy
 Films for Democracy
 Four Continent Book Corporation (N.Y.C.)
 Finnish Federation (Mass.)
 Finnish Workers' Club (Mass.)
 Free Italy Society
 Film and Photo League
 Freedom from Fear Committee
 Friends of the Campus
 Friends of the Chinese People
 Frontier Films
 Greater New York Committee for Employment
 Greater New York Emergency Conference on
 Inalienable Rights
 Group Theatre
 Galena Defense Committee
 Garrison Films Distributors, Inc.
 Harry Bridges Defense Committee
 Harry Bridges Victory Committee
 Hawaii Civil Liberties Committee
 Holyoke Book Shop
 Hold the Price Line Committee
 Independent Citizens Committee of the Arts,
 Sciences, and Professions
 Independent Progressive Party
 Independent Socialist League
 Independent Voters Committee of the Arts and
 Sciences
 International Committee on African Affairs
 Industrial Workers of the World
 International Congress of Women
 International Book Shop of Boston
 International Youth Day (Mass.)
 International Democratic Women's Federation
 International Juridical Association
 International Labor Defense
 International Publishers
 International Union of Students
 International Workers Order
 Jefferson School of Social Science, N.Y.C.
 Jewish People's Committee
 Jefferson Chorus
 Jewish People's Fraternal Order
 Joint Committee for Trade Unions on Social Work
 Keynote Recordings, Inc.
 Korean Culture Society
 Korean Independent News Company
 Labor Research Association
 League of American Writers
 Labor Youth League
 League of Workers Theatres
 League of Young Southerners
 League of Struggle for Negro Rights
 League for Democratic Control (Boston)
 Lithuania Women's Club (Mass.)
 Marxist Study Club of the City College of N.Y.
 Methodist Federation for Social Service
 Metropolitan Interfaith and Interracial Coordinat-
 ing Council
 Modern Culture Club
 Motion Picture Artists Committee
 Mobilization for Democracy
 Motion Picture Democratic Committee
 Musicians' Democratic Committee
 National Committee for People's Rights
 National Committee for the Defense of Political
 Prisoners
 National Council of Negro Youth
 National Emergency Conference for Democratic
 Rights
 National Federation for Constitutional Liberties
 National Lawyers' Guild
 National Negro Congress
 National Negro Women's Council
 National Student League
 National Youth Assembly Against Universal
 Military Training
 National Civil Rights Federation
 National Committee Against Censorship of the
 Theatre Arts
 National Committee to Abolish the Poll Tax
 National Committee to Win the Peace
 National Conference on Civil Liberties
 National Congress for Unemployment and Social
 Insurance
 National Council of the Arts, Sciences and
 Professions
 National Institute of Arts and Letters
 National Joint Action Committee for Genuine Social
 Insurance
 National Labor Committee Against War
 New Century Publishers (N.Y.C.)
 New England Committee for the Defense of
 Political Prisoners
 New England Labor College
 New England Labor Research Association
 New Theatre Group, Boston
 New Theatre Players (Mass.)
 New York State Conference on National Unity
 Negro Cultural Committee
 Negro Labor Victory Committee
 New Union Press
 New Theatre League
 New Union Press
 New York Conference on Civil Rights
 New York Peace Association
 Non-Partisan Labor Defense
 Non-Sectarian Committee for Political Refugees
 Ohio School of Social Sciences
 Open Road
 Pacific Publishing Foundation, Inc.
 Pax Productions
 People's Artists, Inc.
 People's Educational Center
 People's Chorus
 People's Committee to Investigate Un-American
 Activities
 People's Institute of Applied Religion
 People's Orchestra
 People's Peace
 People's Radio Foundation, Inc.
 Philadelphia School of Social Science and Art
 Progressive Book Shop, Boston
 Progressive Labor School, Boston
 Progressive Trade Union School (Worcester)
 Progressive Citizens of America
 Progressive Women's Council
 Prompt Press
 Provisional Committee for Democracy in Radio
 Public Use of Arts Committee
 Samuel Adams School (Boston)
 School for Democracy
 Scientific and Cultural Conference for World Peace
 Southern Conference for Human Welfare
 Southern Negro Youth Congress
 Springfield Citizens' Protective League
 Student Conference Against War
 Stage for Action
 Theatre Arts Committee (TAC)
 Theodore Dreiser Work Shop
 Trade Union Advisory Committee
 Trade Union Service
 Trade Union Theatre
 Teen-Age Art Club
 Tom Mooney Labor School
 Town Meeting of Youth (Washington, D.C.)
 Trade-Union Unity League
 United American Artists
 United Committee of Action
 United Veterans for Equality
 Veterans and Wives, Inc.
 Veterans National Liaison Committee
 Veterans of Equality
 Victory Book Store
 Walt Whitman School of Social Science (Newark)
 Washington Book Shop Association
 Washington Commonwealth Federation
 Western Council for Progressive Labor in
 Agriculture
 Western Writers Congress
 Wives and Sweethearts of Servicemen
 Workers Cultural Federation
 Workers Ex-Servicemen's League
 Workers Alliance
 Workers Library Publishers
 Workers School of Boston (and New York City)
 World Youth Congress
 World Federation of Democratic Youth
 World Congress of Intellectuals
 World Peace Congress
 World Youth Council
 Young Communist League
 Young People's Records
 Young Pioneers of America
 Young Progressive Citizens' Committee
 Young Workers League
 Youth Congress
 Progressive Trade Union School (Worcester)
 National Council of American-Soviet Friendship
 Boston School of Social Science



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**NO
CITY
IS
SAFE
FROM
ATOM
ATTACK**



AIR RAID instructions
Published by the FEDERAL CIVIL DEFENSE ADMINISTRATION

AIR-RAID ALERT
(immediate attack)

3 minute wailing siren
or short blasts

ALL-CLEAR
(attack over)

3 one minute blasts
2 minutes silence between

SOURCES OF MATERIAL — Damage from Atomic Explosion and Design of Protective Structures (Dept. of Defense and AEC) • A Study of Civil Defense (National Military Establishment) • Civil Defense Against Atomic Attack (Joint Committee on Atomic Energy) • The Effects of Atomic Weapons (Atomic Energy Commission) • Medical Aspects of Atomic Weapons (Dept. of Defense and AEC) • Control of Radiation Hazards in the Atomic Energy Program (AEC) • Civil Defense Status (Civilian Defense Office) • Self-Help and Mutual Aid in Civil Defense (NSRB) • Municipal Action in Civil Defense (NSRB) • State and Municipal Responsibilities in Civil Defense Planning (NSRB) • The City of Washington and an Atomic Bomb Attack (NSRB) • Address of William A. Gill, Ass't Dir. of Civilian Mobilization Office • Radiological Monitoring in Civil Defense (NSRB) • National Defense Transportation Journal • Bulletin of the Atomic Scientists • Must We Hide?, Dr. R. E. Lapp • United States Civil Defense.



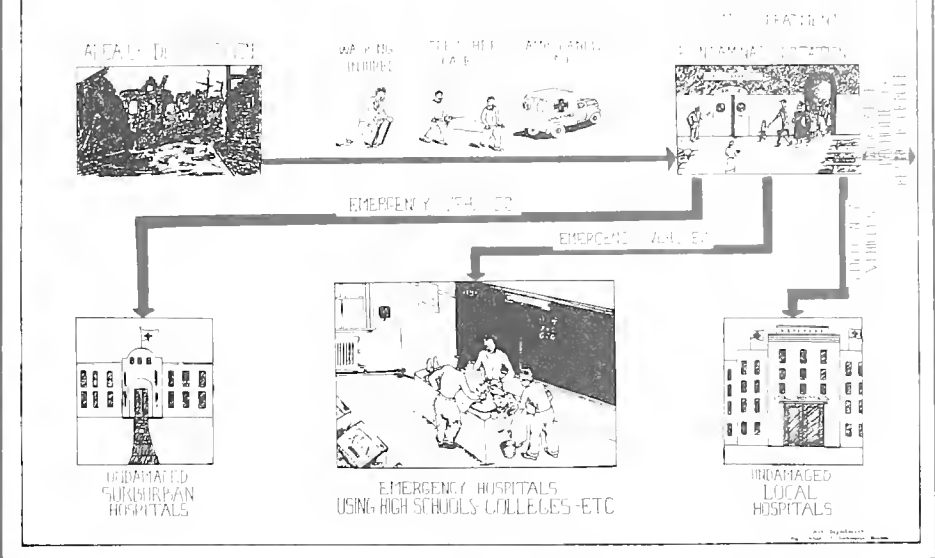
MEDICAL HEALTH DIVISION OF BOSTON CIVIL DEFENSE



Personnel of the Medical and Health Division of the City of Boston are shown constructing a medical exhibit as part of the City of Boston's program to educate the public in the medical aspects of Civil Defense.

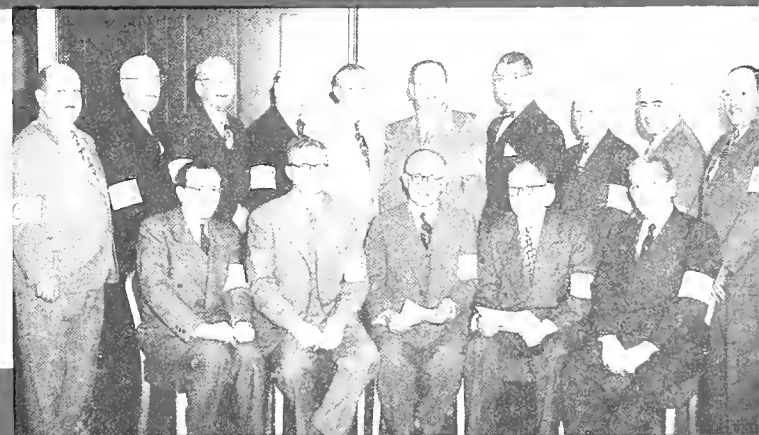
BASIC PLAN

FLOW OF INJURED FOR EMERGENCY MEDICAL CARE



The above chart shows how the Medical Health Division Center of the Boston Department of Civil Defense would handle casualties in the event of an atomic attack on Boston.

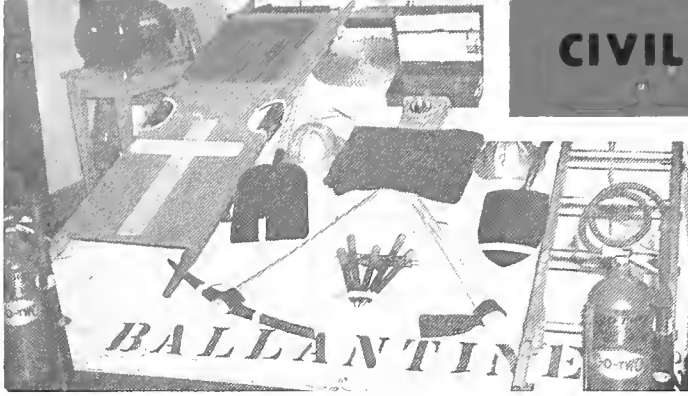
MEDICAL HEALTH DIVISION



The Medical Health Division of the City of Boston is responsible for the medical aspects of Civil Defense. It includes a staff of medical professionals and support personnel who work to prepare for and respond to emergencies. The division is currently working on a medical exhibit to educate the public.

The Medical Health Division is currently working on a medical exhibit to educate the public. The exhibit will focus on the medical aspects of Civil Defense and will be displayed in various locations throughout the city.

CIVIL DEFENSE PROVIDES MAXIMUM



Civil defense rescue equipment that is carried in all Cody Distributing Company trucks and which will be put into immediate service in the event of a disaster.



Discussing a problem in planning are (l. to r.): Director of Planning, for Boston Dept. of CD, Thas. E. McCormick; Supervisor of Property and aide to the Commissioner of Public Works, Cornelius E. O'Leary, and Deputy Building Commissioner for Boston CD, Giles B. Powell.

PUBLIC WORKS

The City of Boston Public Works Department, under the administration of George G. Hyland, Commissioner, is essentially an emergency department. It must continue to function and operate despite the weather or a failure in any of its many vital services. Streets, bridges, water lines, sanitary facilities, sewer mains, pumping stations, tunnels and ferries must be maintained.

The organization of the several divisions, for emergency services, are ready twenty-four hours a day. By adding all available personnel and equipment to assist these groups we feel that we would be ready to cope with any emergency of a disastrous nature. All contractors in the area have been contacted and have promised their assistance.

Twenty miles of 8" quick coupling pipe, with all necessary couplings, fittings, gate valves, pumps, and water purifiers will be stored in an outlying district from which, by way of our highway system, it can be readily moved to any part of the city. This pipe can be used to provide water for fighting fire or for drinking purposes.

The Public Works Department will have its own radio station and facilities located well beyond the target area together with twenty mobile radio units.

Emergency orders have been given to all personnel so that all our services will be quickly available and fully co-ordinated.

SOCIAL SERVICES DIVISION



Boy Scouts are shown receiving instructions and literature from Joseph L. Malone, Director of Boston Civil Defense effort in implementing the Boy Scout motto "Be Prepared."

The Social Services Division consists of Public Welfare Services of the City of Boston supported by such private agencies as the Boston Metropolitan Chapter of the American Red Cross and the United Community Services of Greater Boston which is composed of more than 400 voluntary and tax supported agencies.

The Social Services Division has undertaken the tasks of organizing the public and private welfare services to coordinate their efforts in Emergency Welfare. This Division stands ready to provide shelter, clothing, feeding, financial aid and rehabilitation, and will be responsible for registration of casualties and displaced persons, for information and counselling services and for registration of volunteers.

The tasks to be undertaken are so vast that personnel from outside the Social Services field have been mobilized. The personnel and resources needed for carrying out the operations of this Division number many thousands and are being drawn from schools, churches, labor organizations and business and industry. Thousands are currently enrolled and



Members of the Boston Fire and Police Departments demonstrate Red Cross First Aid techniques as they apply particularly to civil defense under the direction of E. Forest Hallet of the Am. Red Cross.

have been assigned specific tasks and as the training program for Emergency Welfare Services progresses, we shall enroll many more thousands of volunteers.

At the present time, this Division with its present structural organization could go into operation and begin to fulfill its basic function if disaster were to strike now.

PROTECTION ON THE HOME FRONT



First Aid instruction is on the school curriculum as part of the civil defense training program in the Boston Public Schools. This class is in charge of James Sullivan (r), Assoc. Professor of Physical Education at State Teachers College, Boston. (Fay Foto Service)

Boston schools, public and parochial, have taken the lead throughout the nation in Civil Defense planning for school children with the result that many of our procedures have been adapted at the national level for schools throughout the country. In addition to providing a specific Civil Defense plan for each building, our schools took the following protective measures:

1. Shelter areas were selected and marked by the School Building Department.
2. Air raid drills became monthly procedure in all schools.
3. The schools were utilized to secure widespread distribution of Civil Defense materials of instruction. More than three million pieces of Civil Defense literature was distributed to pupils, teachers, and parents.



BOSTON PUBLIC AIR RAID EXERCISE

(Left) John B. Hynes, Mayor of Boston, surveys empty Washington Street five minutes after the Red Alert sounded in Boston's first Air Raid exercise. (Boston Globe Photo)

(Right) Auxiliary Policemen direct the public into nearby shelter areas during the Boston Air Raid exercise. (Boston Traveller Photo)

age, an operation of the seventy-eight traffic control points, and participation of the general public in seeking shelter at the sound of the air raid warning.

The results proved that the public does act quickly and intelligently to the air raid signals and that traffic can be controlled if adequate advance warning is provided. The test also indicated a need for an exercise on a larger scale and on the 15th of May, 1952, a test was held in Boston and all the other cities and towns of the Metropolitan area, constituting Region 5, during which the aims of the previous test were achieved on a larger scale.

Recently, the city participated in a Command Post Exercise under the direction of Federal Civil Defense Region I testing communications between target cities and regions and states of the northeast area of the country.



Students at St. Mark's Parochial School, in Dorchester, duck for cover during one of the periodic air raid exercises that are held in all Boston schools.

SCHOOLS C D PROGRAM

4. First aid has become a required course for Grades 7 - 12 in public and parochial schools.
5. Home and School Associations have become a vital part of the Emergency Welfare program to assist school personnel in manning school buildings as temporary shelters under emergency conditions.

Boston Civil Defense is deeply indebted to the School Civil Defense Committee, to the Principals and Headmasters of our schools, public and parochial, and especially to Dr. Dennis C. Haley, Superintendent of Boston public Schools, and Monsignor Cornelius T.H. Sherlock, Diocesan Superintendent of Schools, for their splendid cooperation in our Civil Defense efforts in Boston.



The public awaits the "All Clear" in a shelter area in the John Hancock Building, during the Boston Air Raid exercise. (John Hancock Photo)

The City of Boston Department of Civil Defense has participated in exercises designed to test and develop this organization. First of these was a Communications Test held on the 14th of August, 1951, in which twelve Civil Defense District Reporting Points maintained communications with the Control Center by means of telephones, police radios, amateur radios, and taxicab radios on one of the four frequencies used by the taxicab companies of Boston, as well as by motorcycle courier.

When Civil Defense organization of business and industry and the district organization progressed to a certain degree and an adequate air raid warning system had been established through the installation of a new siren system, a city-wide test became a possibility. On this occasion, the test had as its main objectives: a check of the siren cover-

Communications - The Nerve



These exclusive action views show the Main Control Center for the Boston Department of Civil Defense. In event of enemy attack this emergency communications and administrative headquarters, located outside the prime target area, would be activated immediately. The vast and vital job of directing all civil defense functions for Boston would be carried out here. Once each week key personnel of the Boston Dept. of Civil Defense engage in an actual exercise at the Center.



EMERGENCY COMMUNICATIONS

The development of emergency communications has been predicted for the last number of years. It is now being developed to the greatest possible extent. It is supplemented by other means of communication.

The New England Telephone & Telegraph Company has cooperated to the fullest extent and developed plans to meet the need for telephone communication in an emergency. This plan involves an assump-

tion that in the event of an emergency, the telephone system will be able to handle a large volume of calls. The company has installed special equipment to handle these calls and has trained its operators to handle them efficiently. This plan is a vital part of the city's emergency communication system.

BOSTON GROUND OBSERVATION POST

Although the Boston Ground Observation Post on the 26th floor of the John Hancock Building has been singled out for considerable praise additional volunteers are still needed to completely staff it around the clock.

So that there will always be a qualified aircraft observer on the 26th floor, male volunteers are needed who can serve during the 8:00 p.m. to 8:00 a.m. shift.

Spotters stationed at the Hancock report all low flying planes to the Air Force Filter Center at Manchester, N. H. by direct telephone lines which are kept in operation on a 24-hour daily basis.

Men willing to serve on the night shift would be scheduled to man the observation post once every 11 days and would not serve on the same night each time. Those interested should contact either George Bettencourt, or William Rose, John Hancock Mutual Life Insurance Company.



Aircraft spotters at the Ground Observation Post on the 26th floor of the John Hancock Building keep watch for, and report all low-flying planes by direct wire to the Air Force Filter Center, at Manchester, N. H. (John Hancock Photo)



All general disaster calls to the Main Control Center will be routed through this Message Center. Shown (l. to r.) are: Mary Lane; R.I. Goodrich, Chairman CD Committee, Cham. of Com.; Frank Kane, Boston Junior Cham. of Com.; John Malone, Ass't. Dir., Message Center Chief; E.J. Chludzinski, Boston Junior Cham. of Com., E. Huey, and Lillian McGowan.



Supplementary communications are handled through this typewriter installed at the Boston Civil Defense Control Center.

Center of Civil Defense



remarkable proficiency in the handling of messages.

Additional equipment has been ordered so that there will be separate communications for fire, works and the rescue forces. A critical analysis has been organized that it can function as an auxiliary civil defense and complete coordination is being effected with the communication system. All public utilities in this area will be supplemented by the use of teletype and cable in the event of disaster.

Formal contacts between the city and other sections of the Metropolitan Area have been established so that they will be in constant contact with one another.



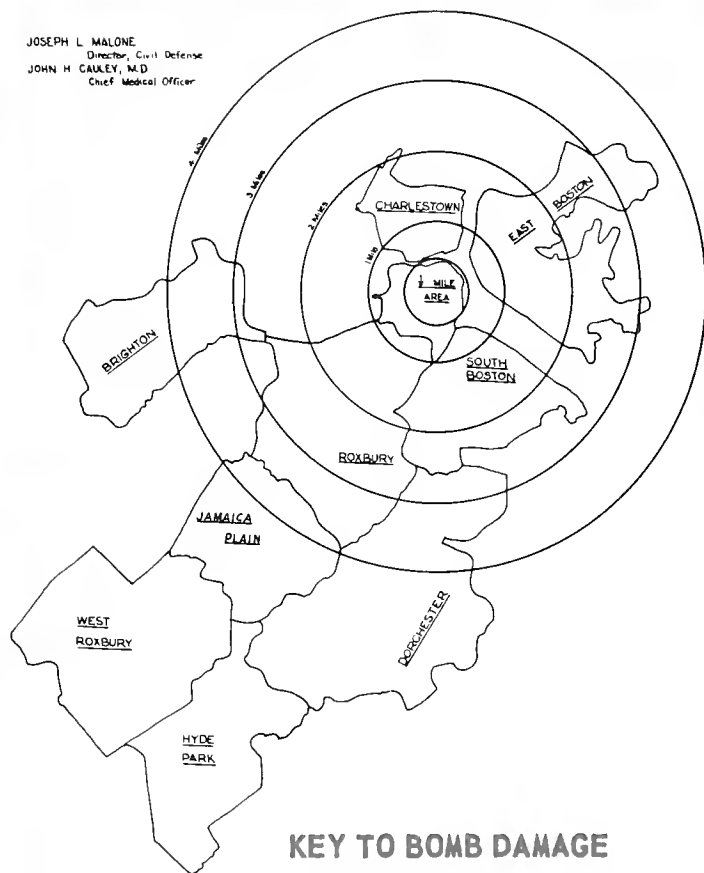
Direct radio communication with taxi-cabs in the Boston area is maintained at the Boston Civil Defense Control Center. In action are: H.L. MacOdrum (l.), Communications Officer for Taxi Cab Radio and S.M. Wolf, Dispatcher.



An extensive emergency amateur (Ham) radio network supplies vital communications facilities for civil defense. Operating the equipment at the Boston Civil Defense Control Center are: Charles Phaneuf (WIRWO); R. Arnold (WUXXL), and M. Reardon, Radio Coordinator, Boston Amateur Radio, Auxiliary Police.

BOSTON DEPARTMENT OF CIVIL DEFENSE

JOSEPH L. MALONE
Director, Civil Defense
JOHN H. CAHALEY, M.D.
Chief Medical Officer



KEY TO BOMB DAMAGE

- | | |
|-----------------|--|
| 1/2 MILE RADIUS | Complete Obstruction |
| 1 MILE RADIUS | Extensive fire damage Nate extensive fire damage can run out to four miles also, very heavy blast damage and lethal radiation dose area. |
| 2 MILE RADIUS | fresh burn area, also heavy blast damage area and dangerous radiation area. |
| 2 - 3 MILE AREA | moderate blast damage area |
| 3 - 4 MILE AREA | slight blast damage area |
| NOTE: | fall-out can occur out to four miles in a low or underwater blast. |

CIVIL DEFENSE REPORTS FROM NEARBY CITIES

WATERTOWN

Watertown is a thickly populated community with 38,500 living in 4.02 sq. miles. It is highly industrialized and has a much larger daytime population, because its manufacturing firms employ thousands from Greater Boston.

The famed and strategic Watertown Arsenal is located within its confines making it, at least, a secondary target for enemy attack. Local civil defense efforts have been in progress since Oct. 1, 1950 and the volunteer enrollment is in excess of 900, not including

municipal employees. The town was the locale of the important Regional Exercises held on March 2, 1952, in which the largest emergency mass feeding demonstration ever attempted in the Commonwealth was staged.

Present planning calls for making maximum use of training and educational equipment purchased in recent months through Federal Matching Funds and in maintaining the interest of the currently enrolled Volunteer Corps. Efforts are likewise being made to increase volunteer strength to the level recommended by FCDA.



John F. Corbett, Civil CD Dir. of Watertown.

BROOKLINE

Brookline Civil Defense, 12 Kent St., Brookline, is making progress in its organization. All branches are in able hands, and each unit is under supervision of a Department head of the Town Government.

The schools are all under instruction and drill weekly. Police and Fire Auxiliary Units, all with first aid training, have had comprehensive general training and are informed. Our fleet of 125 taxicabs, Highway, Water, Police and Fire vehicles have two-way radios. We have 6 Auxiliary units for ham radio.

We are about to open our underground station located on the Newton line, with all cables underground, and can also accommodate the residents of the area for shelter. This I believe is the only underground shelter in Massachusetts.

Our signals are tested each Friday at noon, and we feel that every section of the Town is covered. The only thing we lack in Brookline is interest in the work we are doing. However, should anything happen, we can make a good start with the setup we have.

Our communication setup is in session each Wednesday evening. All our druggists are signed up, and assist us in distributing literature, by placing same on the counters of their stores. The Boy Scouts, and Girl Scouts assist in our mailing. The Water Department also sends out mailing pieces in their quarterly billings.

— Thos. J. Brady, Director



Thos. J. Brady, Dir., CD, Brookline.

CHELSEA

Because of the large number of bulk oil plants and other industrial sites in Chelsea, special emphasis has been placed on the problem of plant protection.

To affect a closer liaison between local CD and these industrial activities, Geo. C. Clarke, Exec. Sec. of the Chelsea Cham. of Com., was appointed to the CD staff in the capacity of Plant and Personnel Coordinator. To assist Mr. Clarke, Chief Voke of the Chelsea Fire Dept. assigned Inspector Thos. J. Nolan.

Mr. Clarke and Inspector Nolan are making the rounds of approx. 300 industrial plants, bulk oil installations, stores, theaters, institutions, and places of assembly and instructing the various plant coordinators in their duties.

At each visit a plant inspection is made to note exits, aisle clearances, presence of fire extinguishers and other fire equipment; knowledge of their use by all employees; the condition of windows and apertures which must be completely free and ready for use by the Fire Department; knowledge of the whereabouts of primary and secondary emergency exits by all employees; the proper designation, location and mode of access to suitable air raid shelter; knowledge of the location and proper handling of power controls; first aid equipment and knowledge of its use; and plan of evacuation.

At later visits each plant is asked to shut down its power and Mr. Clarke and Inspector Nolan deliver a brief talk on Civil Defense and discuss any problems that are unique to that particular plant.

Each plant has its own individual plant protection staff; the wardens are given the Warden's Handbook and those chosen by the plant coordinator are attending Red Cross first aid classes. The plant coordinator who is invariably the plant manager, is briefed in both the Warden's Handbook and the manual, Civil Defense in Industry and Institutions.

The various plant coordinators are brought together in group sessions with the purpose in mind of establishing a pattern of mutual assistance.

As the program progresses, individual air raid tests will be held in each plant, with observers assigned by the local Civil Defense Officer. The drills will consist of the sounding of an alarm, shutting off of power, evacuation to shelters, taking of stations for fire fighting, sounding of the all clear and a return to the work benches, machines and desks.

All phases of this drill will be closely observed, deficiencies noted and recommendations made.

— Samuel S. Provizer, Director.



Samuel S. Provizer, Director, Office of Civil Defense, Chelsea.

LYNN

E.F. Williams, Director, Office of CD, Lynn.



C D DIRECTORS IN LARGER NEARBY CITIES

ROSLINDALE, Boston, 1st District
Telephone: 2-2833

ROSLINDALE, Boston, 1st District
Telephone: 2-2833

ROSLINDALE, Boston, 1st District
Telephone: 2-2833

ROSLINDALE, Boston, 1st District
Telephone: 2-2833

LYNN, Massachusetts, 1st District
Telephone: 2-6111

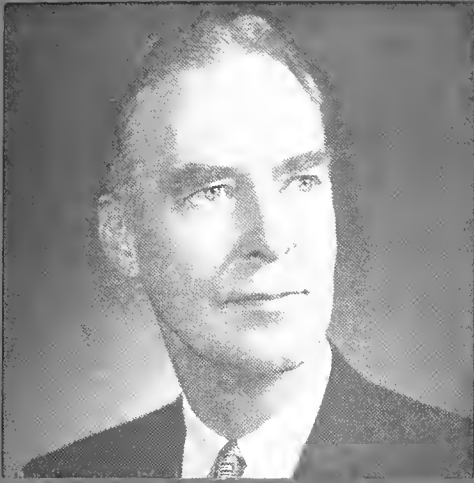
LYNN, Massachusetts, 1st District
Telephone: 2-6111

LYNN, Massachusetts, 1st District
Telephone: 2-6111

LYNN, Massachusetts, 1st District
Telephone: 2-6111

AIR DEFENSE FILTER CENTER AND GROUND OBSERVER CORPS

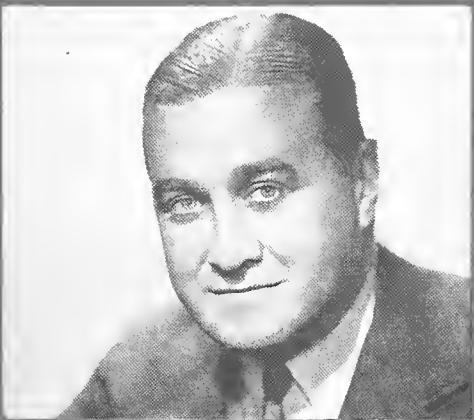
MASSACHUSETTS



The Honorable [Name] [Title] [State]



[Name] [Title] [State]



The Honorable [Name] [Title] [State]



The Air Defense Filter Center for Central New England, located at Manchester, N. H. in action. On the large table shown the paths of all low-flying planes in the area are plotted. Information concerning unidentified planes are phoned to radar stations by the operators on the balcony. (USAF Photo)

FILTER CENTER AND GROUND OBSERVER CORPS

In the smallest of towns and the largest of cities, patriotic Americans today are taking part in our nation's air defense.

Throughout the land, Americans can be found taking on an added job, the job of defense. In most instances, their work is directed toward defending, not themselves, but their fellow-men. Through the concept of defense in depth a suburban housewife in Maine may be the vital link in the air defense chain that results in thwarting an enemy thrust at Boston.

These unselfish men and women (boys and girls too) are all part of the defense team in their capacity as members of the Ground Observer Corps.

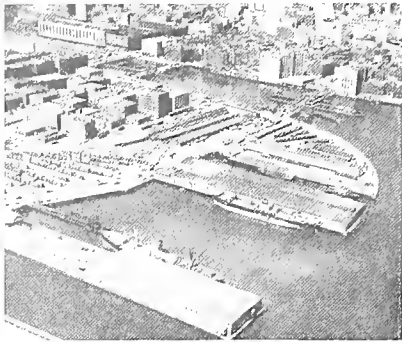
Briefly, this is how the GOC performs its mission. Observation posts are located about every eight miles throughout the New England area. When planes pass near a post information regarding them are called by

telephone to the Filter Center at Manchester, N. H. Here at the center the information is plotted on a large map board and then sent on to the Radar station. Here the track is identified or our planes are sent up to intercept the unknown flight.

The Filter Center for Central New England is located at Manchester, N. H. Some 400 observation posts report to this Filter Center. One of the best posts in the United States is located right here in Boston in the Hancock Tower. Under the capable leadership of William G. Rose this post has operated continuously since the start of "Operation Skywatch" and has the largest number of trained volunteers of any post in the area. Boston can be proud of the part it is playing in support of the Ground Observer Corps.

Harold J. Hurlburt, Major USAF,
Officer in Charge
Manchester Filter Center.

TARGET BO



The Port of Boston is the second largest port for imports in North and South America.



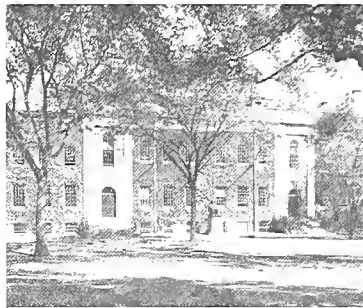
Logan International Airport is one of the country's busiest aviation centers (Boston C. of C. Photo)



An outstanding landmark in downtown Boston is the beautiful John Hancock Building. (John Hancock Photo)



Massachusetts Institute of Technology is recognized as the leading technical school in the country.

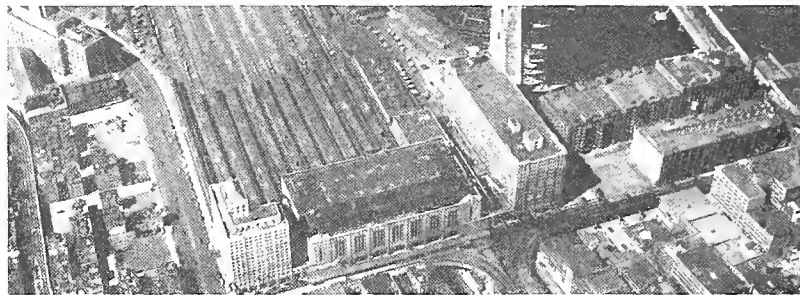


University Hall, at Harvard University, in Cambridge. (Harvard Univ. Photo)

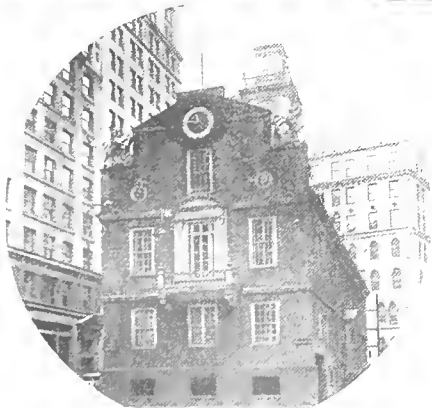


The College of Liberal Arts and College of Business Administration, at Boston Univ.

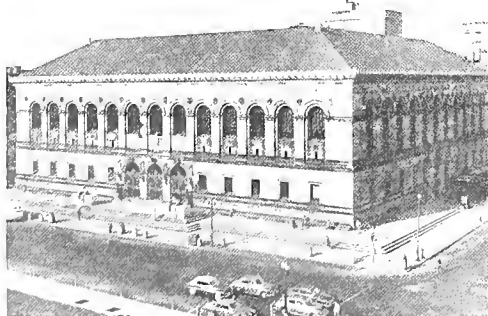
Bunker Hill Monument, on Breed's Hill, Charlestown, commemorates the battle of the same name. (Boston C. of C. Photo)



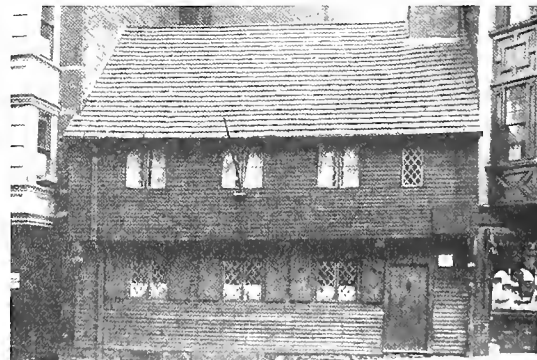
North Station Terminal Group of the Boston and Maine Railroad. (Fairchild Aerial Surveys Inc. Courtesy Boston Port Authority)



The Declaration of Independence was read from the balcony of the Old State House, built in 1713. (Boston C. of C. Photo)

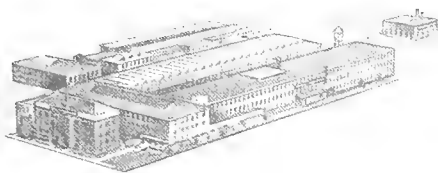


The Boston Public Library, has one million volumes in its stacks; has an estimated \$16,000,000 worth of rare volumes in its "Treasure Room." (Boston Public Lib. Pho)

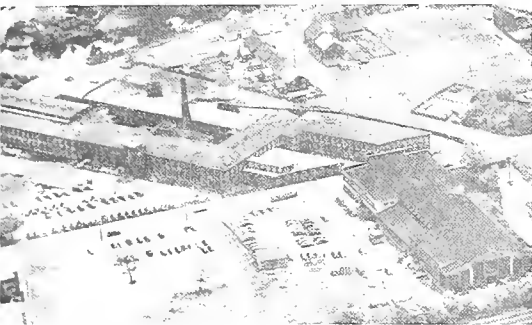


Paul Revere House, the oldest building in Boston, was the home of Paul Revere for 30 years. (Boston C. of C. Photo)

BOSTON



Hyde Park Plant, Westinghouse Electric Corp., Sturtevant Div. (Westinghouse Photo)



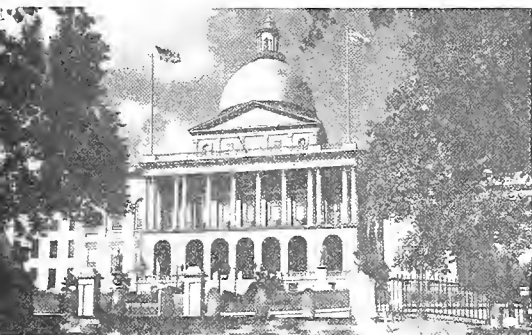
The Allis-Chalmers Manufacturing Company Plant at Boston. (Allis-Chalmers Photo)



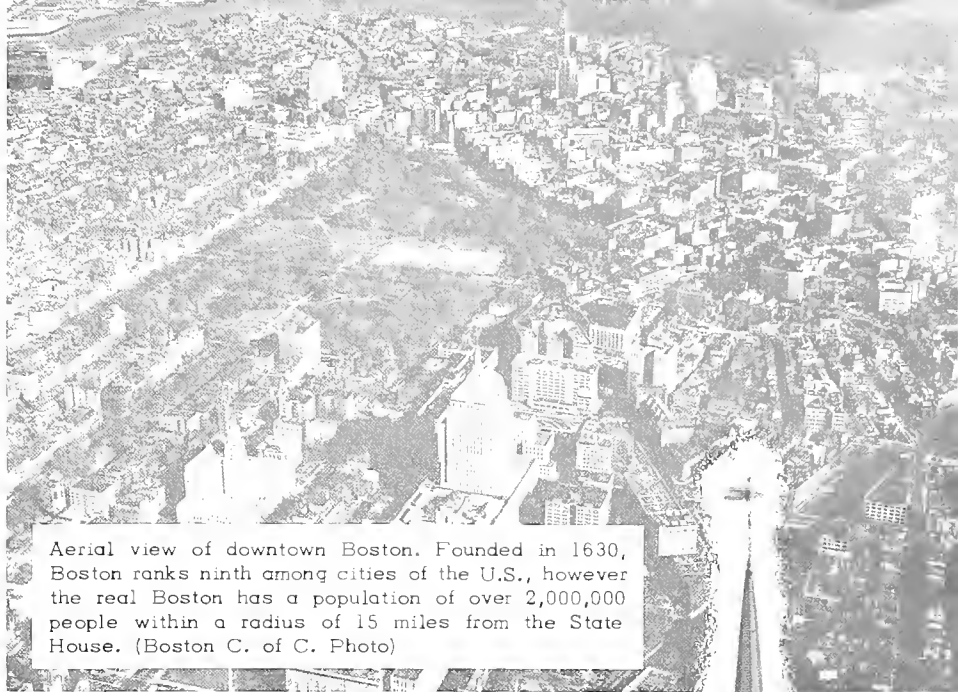
The Monsanto Chemical Company Plant. (Crocker Photo)



Entrance to Boston's famous Naval Shipyard. (1st Naval Dist. Photo)



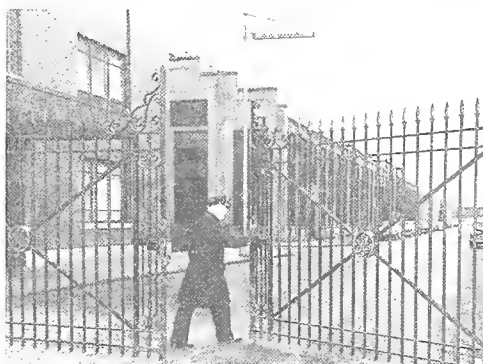
The State House for the Commonwealth of Massachusetts. (Boston C. of C. Photo)



Aerial view of downtown Boston. Founded in 1630, Boston ranks ninth among cities of the U.S., however the real Boston has a population of over 2,000,000 people within a radius of 15 miles from the State House. (Boston C. of C. Photo)



The Boston Museum of Fine Arts has one of the greatest collections of art in the world.



Under tight security regulations, the General Electric Company figures prominently in metropolitan Boston Civil Defense planning. (General Electric Company Photo)



Faneuil Hall, "The Cradle of Liberty," with the Custom House Tower in the background. (New England Council Photo)



From the steeple of "Old North," built in 1723, were hung the signal lanterns as arranged by Paul Revere, that friends on the Charlestown side might be informed of the movements of the British in case Revere was prevented from crossing. (Boston C. of C. Photo)

Military in Boston Area



(Left) War proven Navy Hellcats were used extensively during the training periods of Squantum Naval Reservists and often represented over 50 percent of the total A/C allowance. They were also flown by members of the Marine Fighter and Intercept Squadrons based at Naval Air Station, Squantum. (U.S. Naval Air Station, Squantum Photo)



Rear Adm. John L. McCrea, USN, Com. 1st. Naval Dist.



Maj. Gen. Roderick R. Allen, USA, Commanding General of New England Subarea, Boston Army Base. (USA photo)



Maj. Gen. James F. Phillips, Commanding General Air Force Cambridge Research Center. (Official Photograph U. S. A. F.)



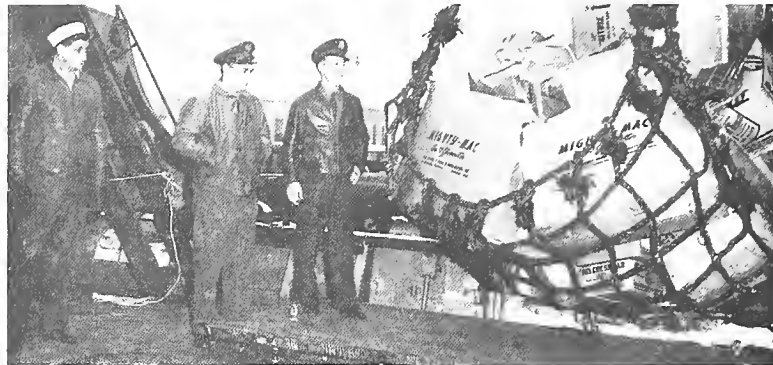
Rear Adm. Harold G. Bradbury, USCG, Commander, First Coast Guard District. (U.S. Coast Guard Photo)



(Right) Col. Paul D. Sherman, USMC, District Marine Officer.



Capt. Simon Medico, Liaison Officer for Civilian Defense, Boston Army Base, Boston, Mass. (U.S. Army Photo)



(Below) A cargo of clothes for Korean war victims being shipped from the Boston Army Base. The clothes were collected by the Armed Forces Woman's Club.



A Coast Guard Port Security boat patrols Boston Harbor. (Coast Guard Photo)

STATEMENT ON CIVIL DEFENSE BY REAR ADMIRAL HAROLD G. BRADBURY:

"As the Armed Forces gain their energies from the power of the nation's people so must civil defense derive its strength."

STATEMENT BY COLONEL PAUL D. SHERMAN, USMC.

"It is your sons who are engaged in a grim fight to keep the horrors of war from their mothers, sisters, and children. It is your task to do everything possible to help. Don't leave these fine American boys to fight alone in a foreign land and allow the destruction to be visited upon their homes. Civil Defense is your responsibility."

A truck mounted radar, designed and constructed by scientists and engineers of the Air Force Cambridge Research Center for airport control. (Air Force Photo)

